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10/501834

SEQUENCE LISTING

<110> Harris, Peter C., Ward, Christopher J., Rossetti, Sandro, and Torres, Vicente E.

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            260                 265                 270
Gly Arg Thr Asn Ile Thr Ile Thr Gly Asp Phe Phe Asp Asn Ser Ala
        275                 280                 285
Gln Val Thr Ile Ala Gly Ile Pro Cys Asp Ile Arg His Val Ser Pro
    290                 295                 300
Arg Lys Ile Glu Cys Thr Thr Arg Ala Pro Gly Lys Asp Val Arg Leu
305                 310                 315                 320
Thr Thr Pro Gln Pro Gly Asn Arg Gly Leu Leu Phe Glu Val Gly Asp
                325                 330                 335
Ala Val Glu Gly Leu Glu Leu Thr Glu Ala Thr Pro Gly Tyr Arg Trp
            340                 345                 350
Gln Ile Val Pro Asn Ala Ser Ser Pro Phe Gly Phe Trp Ser Gln Glu
        355                 360                 365
Gly Gln Pro Phe Arg Ala Arg Leu Ser Gly Phe Phe Val Ala Pro Glu
    370                 375                 380
Thr Asn Asn Tyr Thr Phe Trp Ile Gln Ala Asp Ser Gln Ala Ser Leu
385                 390                 395                 400
His Phe Ser Trp Ser Glu Glu Pro Arg Thr Lys Val Lys Val Ala Ser
                405                 410                 415
Ile Ser Val Gly Thr Ala Asp Trp Phe Asp Ser Trp Glu Gln Asn Arg
            420                 425                 430
Asp Glu Gly Thr Trp Gln Gln Lys Thr Pro Lys Leu Glu Leu Leu Gly
        435                 440                 445
Gly Ala Met Tyr Tyr Leu Glu Ala Glu His His Gly Ile Ala Pro Ser
    450                 455                 460
Arg Gly Met Arg Ile Gly Val Gln Ile His Asn Thr Trp Leu Asn Pro
465                 470                 475                 480
Asp Val Val Thr Thr Tyr Leu Arg Glu Lys His Gln Ile Arg Val Arg
                485                 490                 495
Ala Gln Arg Leu Pro Glu Val Gln Val Leu Asn Val Ser Gly Arg Gly
            500                 505                 510
Asn Phe Phe Leu Thr Trp Asp Asn Val Ser Ser Gln Pro Ile Pro Ala
        515                 520                 525
Asn Ala Thr Ala His Leu Ile Gln Thr Thr Ile Glu Glu Leu Leu Ala
    530                 535                 540
Val Lys Cys Lys Leu Glu Pro Leu Trp Ser Asn Ile Leu Leu Arg Leu
```

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545                 550                 555                 560
Gly Phe Glu Arg Gly Pro Glu Val Ser Asn Ser Asp Gly Asp Leu Thr
                565                 570                 575
Ser Gly Thr Glu Pro Phe Cys Gly Arg Phe Ser Leu Arg Gln Pro Arg
            580                 585                 590
His Leu Val Leu Thr Pro Pro Ala Ala Gln Lys Gly Tyr Arg Leu Asp
        595                 600                 605
Gln Tyr Thr His Leu Cys Leu Ala Tyr Lys Gly His Met Asn Lys Ile
    610                 615                 620
Leu Lys Met Ile Val Ser Phe Thr Ile Gly Phe Gln Asn Met Val Lys
625                 630                 635                 640
Asn Thr Thr Cys Asp Trp Ser Leu Thr Arg Thr Ser Pro Glu Ser Trp
                645                 650                 655
Gln Phe Asp Cys Thr Asp Leu Trp Glu Thr Cys Val Arg Cys Phe Gly
            660                 665                 670
Asp Leu Gln Pro Pro Pro Ala Asn Ser Pro Val Leu Val His Gln Ile
        675                 680                 685
Asn Leu Leu Pro Leu Ala Gln Glu Thr Gly Leu Phe Tyr Val Asp Glu
    690                 695                 700
Ile Ile Ile Ala Asp Thr Asn Val Thr Val Ser Gln Ala Asp Ser Gly
705                 710                 715                 720
Thr Ala Arg Pro Gly Gly Asn Leu Val Glu Ser Val Ser Val Val Gly
                725                 730                 735
Ser Pro Pro Val Tyr Ser Val Thr Ser Trp Leu Ala Gly Cys Gly Thr
            740                 745                 750
Glu Leu Pro Leu Ile Thr Ala Arg Ser Val Pro Thr Glu Gly Thr Glu
        755                 760                 765
Glu Gly Ser Gly Leu Val Leu Val Thr Thr Gln Arg Arg Gln Arg Thr
    770                 775                 780
Ser Pro Pro Leu Gly Gly His Phe Arg Ile Gln Leu Pro Asn Thr Val
785                 790                 795                 800
Ile Ser Asp Val Pro Val Gln Ile Ser Ala His His Leu His Gln Leu
                805                 810                 815
Leu Gln Asn Asn Ala Asp Asp Phe Thr Ser Arg Tyr Leu Asn Ala Ser
            820                 825                 830
Asp Phe Thr Val Lys Glu Asp Leu Tyr Thr Cys Tyr Glu His Val Trp
        835                 840                 845
Thr Leu Ser Trp Ser Thr Gln Ile Gly Asp Leu Pro Asn Phe Ile Arg
    850                 855                 860
Val Ser Asp Glu Asn Leu Thr Gly Val Asn Pro Ala Ala Ala Thr Arg
865                 870                 875                 880
Val Val Tyr Asp Gly Gly Val Phe Leu Gly Pro Ile Phe Gly Asp Met
                885                 890                 895
Leu Ala Thr Ala Asn Gln His Thr Gln Val Val Val Arg Val Asn Asp
            900                 905                 910
Val Pro Ala His Cys Pro Gly Ser Cys Ser Phe Gln Tyr Leu Gln Gly
        915                 920                 925
Ser Thr Pro Cys Val His Ser Val Trp Tyr Ser Ile Asp Gly Asp Ile
    930                 935                 940
Asn Leu Met Ile Tyr Ile Thr Gly Thr Gly Phe Ser Gly Asp Ser Gln
945                 950                 955                 960
Phe Leu Gln Val Thr Val Asn Lys Thr Ser Cys Lys Val Ile Phe Ser
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                965                 970                 975
Asn Gln Thr Asn Val Val Cys Gln Thr Asp Leu Leu Pro Val Gly Met
            980                 985                 990
His Arg Ile Leu Met Leu Val Arg Pro Ser Gly Leu Ala Ile Ser Ala
        995                 1000                1005
Thr Gly Glu Asp Leu Phe Leu Asn Val Lys Pro Arg Leu Asp Met Val
    1010                1015                1020
Glu Pro Ser Arg Ala Ala Asp Ile Gly Gly Leu Trp Ala Thr Ile Arg
1025                1030                1035                1040
Gly Ser Ser Leu Glu Gly Val Ser Leu Ile Leu Phe Gly Ser Tyr Ser
                1045                1050                1055
Cys Ala Ile Asn Val Ala Thr Ser Asn Ser Ser Arg Ile Gln Cys Lys
            1060                1065                1070
Val Pro Pro Arg Gly Lys Asp Gly Arg Ile Val Asn Val Thr Val Ile
        1075                1080                1085
Arg Gly Asp Tyr Ser Ala Val Leu Pro Arg Ala Phe Thr Tyr Val Ser
    1090                1095                1100
Ser Leu Asn Pro Val Ile Val Thr Leu Ser Arg Asn Ile Ser Asn Ile
1105                1110                1115                1120
Ala Gly Gly Glu Thr Leu Val Ile Gly Val Ala Arg Leu Met Asn Tyr
                1125                1130                1135
Thr Asp Leu Asp Val Glu Val His Val Gln Asp Ala Leu Ala Pro Val
            1140                1145                1150
His Thr Gln Ser Ala Trp Gly Leu Glu Val Ala Leu Pro Pro Leu Pro
        1155                1160                1165
Ala Gly Leu His Arg Ile Ser Val Ser Ile Asn Gly Val Ser Ile His
    1170                1175                1180
Ser Gln Gly Val Asp Leu His Ile Gln Tyr Leu Thr Glu Val Phe Ser
1185                1190                1195                1200
Ile Glu Pro Cys Cys Gly Ser Leu Leu Gly Gly Thr Ile Leu Ser Ile
                1205                1210                1215
Ser Gly Ile Gly Phe Ser Arg Asp Pro Ala Leu Val Trp Val Leu Val
            1220                1225                1230
Gly Asn Arg Ser Cys Asp Ile Val Asn Leu Thr Glu Ala Ser Ile Trp
        1235                1240                1245
Cys Glu Thr Leu Pro Ala Pro Gln Ile Pro Asp Ala Gly Ala Pro Thr
    1250                1255                1260
Val Pro Ala Ala Val Glu Val Trp Ala Gly Asn Arg Phe Phe Ala Arg
1265                1270                1275                1280
Gly Pro Ser Pro Ser Leu Val Gly Lys Gly Phe Thr Phe Met Tyr Glu
                1285                1290                1295
Ala Ala Ala Thr Pro Val Val Thr Ala Met Gln Gly Glu Ile Thr Asn
            1300                1305                1310
Ser Ser Leu Ser Leu His Val Gly Gly Ser Asn Leu Ser Asn Ser Val
        1315                1320                1325
Ile Leu Leu Gly Asn Leu Asn Cys Asp Val Glu Thr Gln Ser Phe Gln
    1330                1335                1340
Gly Asn Val Ser Leu Ser Gly Cys Ser Ile Pro Leu His Ser Leu Glu
1345                1350                1355                1360
Ala Gly Ile Tyr Pro Leu Gln Val Arg Gln Lys Gln Met Gly Phe Ala
                1365                1370                1375
Asn Met Ser Val Val Leu Gln Gln Phe Ala Val Met Pro Arg Ile Met
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            1380                1385                1390
Ala Ile Phe Pro Ser Gln Gly Ser Ala Cys Gly Gly Thr Ile Leu Thr
        1395                1400                1405
Val Arg Gly Leu Leu Leu Asn Ser Arg Arg Arg Ser Val Arg Val Asp
    1410                1415                1420
Leu Ser Gly Pro Phe Thr Cys Val Ile Leu Ser Leu Gly Asp His Thr
1425                1430                1435                1440
Ile Leu Cys Gln Val Ser Leu Glu Gly Asp Pro Leu Pro Gly Ala Ser
                1445                1450                1455
Phe Ser Leu Asn Val Thr Val Leu Val Asn Gly Leu Thr Ser Glu Cys
            1460                1465                1470
Gln Gly Asn Cys Thr Leu Phe Ile Arg Glu Glu Ala Ser Pro Val Met
        1475                1480                1485
Asp Ala Leu Ser Thr Asn Thr Ser Gly Ser Leu Thr Thr Val Leu Ile
    1490                1495                1500
Arg Gly Gln Arg Leu Ala Thr Thr Ala Asp Glu Pro Met Val Phe Val
1505                1510                1515                1520
Asp Asp Gln Leu Pro Cys Asn Val Thr Phe Phe Asn Ala Ser His Val
                1525                1530                1535
Val Cys Gln Thr Arg Asp Leu Ala Pro Gly Pro His Tyr Leu Ser Val
            1540                1545                1550
Phe Tyr Thr Arg Asn Gly Tyr Ala Cys Ser Gly Asn Val Ser Arg His
        1555                1560                1565
Phe Tyr Ile Met Pro Gln Val Phe His Tyr Phe Pro Lys Asn Phe Ser
    1570                1575                1580
Leu His Gly Gly Ser Leu Leu Thr Ile Glu Gly Thr Gly Leu Arg Gly
1585                1590                1595                1600
Gln Asn Thr Thr Ser Val Tyr Ile Asp Gln Gln Thr Cys Leu Thr Val
                1605                1610                1615
Asn Ile Gly Ala Glu Leu Ile Arg Cys Ile Val Pro Thr Gly Asn Gly
            1620                1625                1630
Ser Val Ala Leu Glu Ile Glu Val Asp Gly Leu Trp Tyr His Ile Gly
        1635                1640                1645
Val Ile Gly Tyr Asn Lys Ala Phe Thr Pro Glu Leu Ile Ser Ile Ser
    1650                1655                1660
Gln Ser Asp Asp Ile Leu Thr Phe Ala Val Ala Gln Ile Ser Gly Ala
1665                1670                1675                1680
Ala Asn Ile Asp Ile Phe Ile Gly Met Ser Pro Cys Val Gly Val Ser
                1685                1690                1695
Gly Asn His Thr Val Leu Gln Cys Val Val Pro Ser Leu Pro Ala Gly
            1700                1705                1710
Glu Tyr His Val Arg Gly Tyr Asp Cys Ile Arg Gly Trp Ala Ser Ser
        1715                1720                1725
Ala Leu Val Phe Thr Ser Arg Val Ile Ile Thr Ala Val Thr Glu Asn
    1730                1735                1740
Phe Gly Cys Leu Gly Gly Arg Leu Val His Val Phe Gly Ala Gly Phe
1745                1750                1755                1760
Ser Pro Gly Asn Val Ser Ala Ala Val Cys Gly Ala Pro Cys Arg Val
                1765                1770                1775
Leu Ala Asn Ala Thr Val Ser Ala Phe Ser Cys Leu Val Leu Pro Leu
            1780                1785                1790
Asp Val Ser Leu Ala Phe Leu Cys Gly Leu Lys Arg Glu Glu Asp Ser
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        1795                1800                1805
Cys Glu Ala Ala Arg His Thr Tyr Val Gln Cys Asp Leu Thr Val Ala
    1810                1815                1820
Met Ala Thr Glu Gln Leu Leu Glu Ser Trp Pro Tyr Leu Tyr Ile Cys
1825                1830                1835                1840
Glu Glu Ser Ser Gln Cys Leu Phe Val Pro Asp His Trp Ala Glu Ser
                1845                1850                1855
Met Phe Pro Ser Phe Ser Gly Leu Phe Ile Ser Pro Lys Leu Glu Arg
            1860                1865                1870
Asp Glu Val Leu Ile Tyr Asn Ser Ser Cys Asn Ile Thr Met Glu Thr
        1875                1880                1885
Glu Ala Glu Met Glu Cys Glu Thr Pro Asn Gln Pro Ile Thr Val Lys
    1890                1895                1900
Ile Thr Glu Ile Arg Lys Arg Trp Gly Gln Asn Thr Gln Gly Asn Phe
1905                1910                1915                1920
Ser Leu Gln Phe Cys Arg Arg Trp Ser Arg Thr His Ser Trp Phe Pro
                1925                1930                1935
Glu Arg Leu Pro Gln Asp Gly Asp Asn Val Thr Val Glu Asn Gly Gln
            1940                1945                1950
Leu Leu Leu Leu Asp Thr Asn Thr Ser Ile Leu Asn Leu Leu His Ile
        1955                1960                1965
Lys Gly Gly Lys Leu Ile Phe Met Ala Pro Gly Pro Ile Glu Leu Arg
    1970                1975                1980
Ala His Ala Ile Leu Val Ser Asp Gly Gly Glu Leu Arg Ile Gly Ser
1985                1990                1995                2000
Glu Asp Lys Pro Phe Gln Gly Arg Ala Gln Ile Thr Leu Tyr Gly Ser
                2005                2010                2015
Ser Tyr Ser Thr Pro Phe Phe Pro Tyr Gly Val Lys Phe Leu Ala Val
            2020                2025                2030
Arg Asn Gly Thr Leu Ser Leu His Gly Ser Leu Pro Glu Val Ile Val
        2035                2040                2045
Thr Cys Leu Arg Ala Thr Ala His Ala Leu Asp Thr Val Leu Ala Leu
    2050                2055                2060
Glu Asp Ala Val Asp Trp Asn Pro Gly Asp Glu Val Val Ile Ile Ser
2065                2070                2075                2080
Gly Thr Gly Val Lys Gly Ala Lys Pro Met Glu Glu Ile Val Thr Val
                2085                2090                2095
Glu Thr Val Gln Asp Thr Asp Leu Tyr Leu Lys Ser Pro Leu Arg Tyr
            2100                2105                2110
Ser His Asn Phe Thr Glu Asn Trp Val Ala Gly Glu His His Ile Leu
        2115                2120                2125
Lys Ala Thr Val Ala Leu Leu Ser Arg Ser Ile Thr Ile Gln Gly Asn
    2130                2135                2140
Leu Thr Asn Glu Arg Glu Lys Leu Leu Val Ser Cys Gln Glu Ala Asn
2145                2150                2155                2160
Ala Pro Glu Gly Asn Leu Gln His Cys Leu Tyr Ser Met Ser Glu Lys
                2165                2170                2175
Met Leu Gly Ser Arg Asp Met Gly Ala Arg Val Ile Val Gln Ser Phe
            2180                2185                2190
Pro Glu Glu Pro Ser Gln Val Gln Leu Lys Gly Val Gln Phe Gln Val
        2195                2200                2205
Leu Gly Gln Ala Phe His Lys His Leu Ser Ser Leu Thr Leu Val Gly
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    2210                2215                2220
Ala Met Arg Glu Ser Phe Ile Gln Gly Cys Thr Val Arg Asn Ser Phe
2225                2230                2235                2240
Ser Arg Gly Leu Ser Met Cys Gly Thr Leu Gly Leu Lys Val Asp Ser
                2245                2250                2255
Asn Val Phe Tyr Asn Ile Leu Gly His Ala Leu Leu Val Gly Thr Cys
            2260                2265                2270
Thr Glu Met Arg Tyr Ile Ser Trp Glu Ala Ile His Gly Arg Lys Asp
        2275                2280                2285
Asp Trp Ser Gly His Gly Asn Ile Ile Arg Asn Asn Val Ile Ile Gln
    2290                2295                2300
Val Ser Gly Ala Glu Gly Leu Ser Asn Pro Glu Met Leu Thr Pro Ser
2305                2310                2315                2320
Gly Ile Tyr Ile Cys Ser Pro Thr Asn Val Ile Glu Gly Asn Arg Val
                2325                2330                2335
Cys Gly Ala Gly Tyr Gly Tyr Phe Phe His Leu Met Thr Asn Gln Thr
            2340                2345                2350
Ser Gln Ala Pro Leu Leu Ser Phe Thr Gln Asn Ile Ala His Ser Cys
        2355                2360                2365
Thr Arg Tyr Gly Leu Phe Val Tyr Pro Lys Phe Gln Pro Pro Trp Asp
    2370                2375                2380
Asn Val Thr Gly Thr Thr Leu Phe Gln Ser Phe Thr Val Trp Glu Ser
2385                2390                2395                2400
Ala Gly Gly Ala Gln Ile Phe Arg Ser Ser Asn Leu Arg Leu Lys Asn
                2405                2410                2415
Phe Lys Val Tyr Ser Cys Arg Asp Phe Gly Ile Asp Val Leu Glu Ser
            2420                2425                2430
Asp Ala Asn Thr Ser Val Thr Asp Ser Leu Leu Leu Gly His Phe Ala
        2435                2440                2445
His Lys Gly Ser Leu Cys Met Ser Ser Gly Ile Lys Thr Pro Lys Arg
    2450                2455                2460
Trp Glu Leu Met Val Ser Asn Thr Thr Phe Val Asn Phe Asp Leu Ile
2465                2470                2475                2480
Asn Cys Val Ala Ile Arg Thr Cys Ser Asp Cys Ser Gln Gly Gln Gly
                2485                2490                2495
Gly Phe Thr Val Lys Thr Ser Gln Leu Lys Phe Thr Asn Ser Ser Asn
            2500                2505                2510
Leu Val Ala Phe Pro Phe Pro His Ala Ala Ile Leu Glu Asp Leu Asp
        2515                2520                2525
Gly Ser Leu Ser Gly Lys Asn Arg Ser His Ile Leu Ala Ser Met Glu
    2530                2535                2540
Thr Leu Ser Ala Ser Cys Leu Val Asn Ser Ser Phe Gly Arg Val Val
2545                2550                2555                2560
His Gly Ser Ala Cys Gly Gly Gly Val Leu Phe His Arg Met Ser Ile
                2565                2570                2575
Gly Leu Ala Asn Thr Pro Glu Val Ser Tyr Asp Leu Thr Met Thr Asp
            2580                2585                2590
Ser Arg Asn Lys Thr Thr Thr Val Asn Tyr Val Arg Asp Thr Leu Ser
        2595                2600                2605
Asn Pro Arg Gly Trp Met Ala Leu Leu Leu Asp Gln Glu Thr Tyr Ser
    2610                2615                2620
Leu Gln Ser Glu Asn Leu Trp Ile Asn Arg Ser Leu Gln Tyr Ser Ala
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2625 2630 2635 2640
Thr Phe Asp Asn Phe Ala Pro Gly Asn Tyr Leu Leu Leu Val His Thr
2645 2650 2655
Asp Leu Pro Pro Tyr Pro Asp Ile Leu Leu Arg Cys Gly Ser Arg Val
2660 2665 2670
Gly Leu Ser Phe Pro Phe Leu Pro Ser Pro Gly Gln Asn Gln Gly Cys
2675 2680 2685
Asp Trp Phe Phe Asn Ser Gln Leu Arg Gln Leu Thr Tyr Leu Val Ser
2690 2695 2700
Gly Glu Gly Gln Val Gln Val Ile Leu Arg Val Lys Glu Gly Met Pro
2705 2710 2715 2720
Pro Thr Ile Ser Ala Ser Thr Ser Ala Pro Glu Ser Ala Leu Lys Trp
2725 2730 2735
Ser Leu Pro Glu Thr Trp Gln Gly Val Glu Glu Gly Trp Gly Gly Tyr
2740 2745 2750
Asn Asn Thr Ile Pro Gly Pro Gly Asp Asp Val Leu Ile Leu Pro Asn
2755 2760 2765
Arg Thr Val Leu Val Asp Thr Asp Leu Pro Phe Phe Lys Gly Leu Tyr
2770 2775 2780
Val Met Gly Thr Leu Asp Phe Pro Val Asp Arg Ser Asn Val Leu Ser
2785 2790 2795 2800
Val Ala Cys Met Val Ile Ala Gly Gly Glu Leu Lys Val Gly Thr Leu
2805 2810 2815
Glu Asn Pro Leu Glu Lys Glu Gln Lys Leu Leu Ile Leu Leu Arg Ala
2820 2825 2830
Ser Glu Gly Val Phe Cys Asp Arg Met Asn Gly Ile His Ile Asp Pro
2835 2840 2845
Gly Thr Ile Gly Val Tyr Gly Lys Val His Leu Tyr Ser Ala Tyr Pro
2850 2855 2860
Lys Asn Ser Trp Thr His Leu Gly Ala Asp Ile Ala Ser Gly Asn Glu
2865 2870 2875 2880
Arg Ile Ile Val Glu Asp Ala Val Asp Trp Arg Pro His Asp Lys Ile
2885 2890 2895
Val Leu Ser Ser Ser Ser Tyr Glu Pro His Glu Ala Glu Val Leu Thr
2900 2905 2910
Val Lys Glu Val Lys Gly His His Val Arg Ile Tyr Glu Arg Leu Lys
2915 2920 2925
His Arg His Ile Gly Ser Val His Val Thr Glu Asp Gly Arg His Ile
2930 2935 2940
Arg Leu Ala Ala Glu Val Gly Leu Leu Thr Arg Asn Ile Gln Ile Gln
2945 2950 2955 2960
Pro Asp Val Ser Cys Arg Gly Arg Leu Phe Val Gly Ser Phe Arg Lys
2965 2970 2975
Ser Ser Arg Glu Glu Phe Ser Gly Val Leu Gln Leu Leu Asn Val Glu
2980 2985 2990
Ile Gln Asn Phe Gly Ser Pro Leu Tyr Ser Ser Val Glu Phe Ser Asn
2995 3000 3005
Val Ser Ala Gly Ser Trp Ile Ile Ser Ser Thr Leu His Gln Ser Cys
3010 3015 3020
Gly Gly Gly Ile His Ala Ala Ala Ser His Gly Val Leu Leu Asn Asp
3025 3030 3035 3040
Asn Ile Val Phe Gly Thr Ala Gly His Gly Ile Asp Leu Glu Gly Gln

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                3045                3050                3055
Ala Tyr Thr Val Thr Asn Asn Leu Val Val Leu Met Thr Gln Pro Ala
            3060                3065                3070
Trp Ser Thr Ile Trp Val Ala Gly Ile Lys Val Asn Gln Val Lys Asp
        3075                3080                3085
Ile Asn Leu His Gly Asn Val Val Ala Gly Ser Glu Arg Leu Gly Phe
    3090                3095                3100
His Ile Arg Gly His Lys Cys Ser Ser Cys Glu Leu Leu Trp Ser Asp
3105                3110                3115                3120
Asn Val Ala His Ser Ser Leu His Gly Leu His Leu Tyr Lys Glu Ser
                3125                3130                3135
Gly Leu Asp Asn Cys Thr Arg Ile Ser Gly Phe Leu Ala Phe Lys Asn
            3140                3145                3150
Phe Asp Tyr Gly Ala Met Leu His Val Glu Asn Ser Val Glu Ile Glu
        3155                3160                3165
Asn Ile Thr Leu Val Asp Asn Thr Ile Gly Leu Leu Ala Val Val Tyr
    3170                3175                3180
Val Phe Ser Ala Pro Gln Asn Ser Val Lys Lys Val Gln Ile Val Leu
3185                3190                3195                3200
Arg Asn Ser Val Ile Val Ala Thr Ser Ser Ser Phe Asp Cys Ile Gln
                3205                3210                3215
Asp Lys Val Lys Pro His Ser Ala Asn Leu Thr Ser Thr Asp Arg Ala
            3220                3225                3230
Pro Ser Asn Pro Arg Gly Gly Arg Ile Gly Ile Leu Trp Pro Val Phe
        3235                3240                3245
Thr Ser Glu Pro Asn Gln Trp Pro Gln Glu Pro Trp His Lys Val Arg
    3250                3255                3260
Asn Asp His Ser Ile Ser Gly Ile Met Lys Leu Gln Asp Val Thr Phe
3265                3270                3275                3280
Ser Ser Phe Val Lys Ser Cys Tyr Ser Asp Asp Leu Asp Val Cys Ile
                3285                3290                3295
Leu Pro Asn Ala Glu Asn Ser Gly Ile Met His Pro Ile Thr Ala Glu
            3300                3305                3310
Arg Thr Arg Met Leu Lys Ile Lys Asp Lys Asn Lys Phe Tyr Phe Pro
        3315                3320                3325
Ser Leu Gln Pro Arg Lys Asp Leu Gly Lys Val Val Cys Pro Glu Leu
    3330                3335                3340
Asp Cys Ala Ser Pro Arg Lys Tyr Leu Phe Lys Asp Leu Asp Gly Arg
3345                3350                3355                3360
Ala Leu Gly Leu Pro Pro Pro Val Ser Val Phe Pro Lys Thr Glu Ala
                3365                3370                3375
Glu Trp Thr Ala Ser Phe Phe Asn Ala Gly Thr Phe Arg Glu Glu Gln
            3380                3385                3390
Lys Cys Thr Tyr Gln Phe Leu Met Gln Gly Phe Ile Cys Lys Gln Thr
        3395                3400                3405
Asp Gln Val Val Leu Ile Leu Asp Ser Ala Asp Ala Ile Trp Ala Ile
    3410                3415                3420
Gln Lys Leu Tyr Pro Val Val Ser Val Thr Ser Gly Phe Val Asp Val
3425                3430                3435                3440
Phe Ser Ser Val Asn Ala Asn Ile Pro Cys Ser Thr Ser Gly Ser Val
                3445                3450                3455
Ser Thr Phe Tyr Ser Ile Leu Pro Ile Arg Gln Ile Thr Lys Val Cys
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            3460                3465                3470
Phe Met Asp Gln Thr Pro Gln Val Leu Arg Phe Phe Leu Leu Gly Asn
        3475                3480                3485
Lys Ser Thr Ser Lys Leu Leu Leu Ala Val Phe Tyr His Glu Leu Gln
    3490                3495                3500
Ser Pro His Val Phe Leu Gly Glu Ser Phe Ile Pro Pro Thr Leu Val
3505                3510                3515                3520
Gln Ser Ala Ser Leu Leu Leu Asn Glu Ser Ile Gly Ala Asn Tyr Phe
                3525                3530                3535
Asn Ile Met Asp Asn Leu Leu Tyr Val Val Leu Gln Gly Glu Glu Pro
            3540                3545                3550
Ile Glu Ile Arg Ser Gly Val Ser Ile His Leu Ala Leu Thr Val Met
        3555                3560                3565
Val Ser Val Leu Glu Lys Gly Trp Glu Ile Val Ile Leu Glu Arg Leu
    3570                3575                3580
Thr Asn Phe Leu Gln Ile Gly Gln Asn Gln Ile Arg Phe Ile His Glu
3585                3590                3595                3600
Met Pro Gly His Glu Glu Thr Leu Lys Ala Ile Ala Asp Ser Arg Ala
                3605                3610                3615
Lys Arg Lys Arg Asn Cys Pro Thr Val Thr Cys Thr Ser His Tyr Arg
            3620                3625                3630
Arg Val Gly Gln Arg Arg Pro Leu Met Met Glu Met Asn Ser His Arg
        3635                3640                3645
Ala Ser Pro Pro Met Thr Val Glu Thr Ile Ser Lys Val Ile Val Ile
    3650                3655                3660
Glu Ile Gly Asp Ser Pro Thr Val Arg Ser Thr Gly Met Ile Ser Ser
3665                3670                3675                3680
Leu Ser Ser Asn Lys Leu Gln Asn Leu Ala His Arg Val Ile Thr Ala
                3685                3690                3695
Gln Gln Thr Gly Val Leu Glu Asn Val Leu Asn Met Thr Ile Gly Ala
            3700                3705                3710
Leu Leu Val Thr Gln Ser Lys Gly Val Ile Gly Tyr Gly Asn Thr Ser
        3715                3720                3725
Ser Phe Lys Thr Gly Asn Leu Ile Tyr Ile Arg Pro Tyr Ala Leu Ser
    3730                3735                3740
Ile Leu Val Gln Pro Ser Asp Gly Glu Val Gly Asn Glu Leu Pro Val
3745                3750                3755                3760
Gln Pro Gln Leu Val Phe Leu Asp Glu Gln Asn Arg Arg Val Glu Ser
                3765                3770                3775
Leu Gly Pro Pro Ser Glu Pro Trp Thr Ile Ser Ala Ser Leu Glu Gly
            3780                3785                3790
Ala Ser Asp Ser Val Leu Lys Gly Cys Thr Gln Ala Glu Thr Gln Asp
        3795                3800                3805
Gly Tyr Val Ser Phe Tyr Asn Leu Ala Val Leu Ile Ser Gly Ser Asn
    3810                3815                3820
Trp His Phe Ile Phe Thr Val Thr Ser Pro Pro Gly Val Asn Phe Thr
3825                3830                3835                3840
Ala Arg Ser Lys Pro Phe Ala Val Leu Pro Val Thr Arg Lys Glu Lys
                3845                3850                3855
Ser Thr Ile Ile Leu Ala Ala Ser Leu Ser Ser Val Ala Ser Trp Leu
            3860                3865                3870
Ala Leu Ser Cys Leu Val Cys Cys Trp Leu Lys Arg Ser Lys Ser Arg
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        3875                3880                3885
Lys Thr Lys Pro Glu Glu Ile Pro Glu Ser Gln Thr Asn Asn Gln Asn
    3890                3895                3900
Ile His Ile His Ile Ser Ser Lys Arg Arg Glu Ser Gln Gly Pro Lys
3905                3910                3915                3920
Lys Glu Asp Thr Val Val Gly Glu Asp Met Arg Met Lys Val Met Leu
                3925                3930                3935
Gly Lys Val Asn Gln Cys Pro His Gln Leu Met Asn Gly Val Ser Arg
            3940                3945                3950
Arg Lys Val Ser Arg His Ile Val Arg Glu Glu Glu Ala Ala Val Pro
        3955                3960                3965
Ala Pro Gly Thr Thr Gly Ile Thr Ser His Gly His Ile Cys Ala Pro
    3970                3975                3980
Gly Ala Pro Ala Gln Gln Val Tyr Leu Gln Glu Thr Gly Asn Trp Lys
3985                3990                3995                4000
Glu Gly Gln Glu Gln Leu Leu Arg Tyr Gln Leu Ala Gly Gln Asn Gln
                4005                4010                4015
Leu Leu Leu Leu Cys Pro Asp Phe Arg Gln Glu Arg Gln Gln Leu Pro
            4020                4025                4030
Gly Gln Ser Arg Leu Ser Lys Gln Ser Gly Ser Leu Gly Leu Ser Gln
        4035                4040                4045
Glu Lys Lys Ala Ser Cys Gly Ala Thr Glu Ala Phe Cys Leu His Ser
    4050                4055                4060
Val His Pro Glu Thr Ile Gln Glu Gln Leu
4065                4070
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<211> 13971
<212> DNA
<213> Rattus norvegicus

<400> 3

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caaatgcttg taaactgaga ttgtaatcaa tcatgtctct tgtacctctc attgatccta   12600
cccaattcca gcaaataata ggacctcaaa aacttgctga tattttctgg ggttcaaact   12660
ggttacgttg cagccaactt aatacctgtg ctataaatac tgaatttcag taagcaggaa   12720
ctgtgattaa gattccctat agtcaacact caggatgctt taggcttgtc ttatggaaga   12780
cctgttatag ctttagttag ccgatgttgt atctgcagtg ctatagaaat acccaggaga   12840
tattttacac caatgtttac ccttcaaaca gagttaactt aataaaagtt acttgtagat   12900
tttaaaaaaa aaaaaaaa                                                 12918
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<210> 5
<211> 2416
<212> DNA
<213> Homo sapien

<400> 5

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acgttctggt gaacaaaagg aagaaatggg agatctatag tagtgccttg caactttgtc     120
cctcgatgtc ccaaaggaga agctgagagg gaagggagga agaagggaag agggagtgag     180
agcagagaga ggagagagag agaggagaac aaaaacatga ctaaataaat gcacacagct     240
ctcctctgtg gttgaaaaat tttagttatg agaaataaag agagtctgag tttattttta     300
ggaagaatta gtggatagac taataaaaaa ttacatttat aattgacatg aaaaagatgc     360
agttccaaat gtagggtttt aagaaaacca gtgtgcgaat gtttatttct attgttctga     420
gcttgggagt aggcattaag aagaaatgtt aaaatcacgt agccagattg aaaatagact     480
ctcctgtgct gagtatattt tgtctgtgta acaagcaagt cagatctcat gcttttggac     540
taagcagcaa atacgcttgg gtacttttcc ctatgtggta gatgtattct gaaagttgta     600
tatttataag ttgaattcta tttcaaatag acgtaaaagt ttgggaattt tgcaacgaaa     660
aggaacactt gctgaatcca cttgaaaata ctagaattcc tttcttaaat ccaagtagcc     720
tccacactta ccctatctgg taatgactcg ggggcaggta catagattgt ttgttttccc     780
aacttttagt atagtgctta gcacgtagtg ggcatacaat aaatgtttgc agtgttgaat     840
taaatagaaa tgattataga tttccagctg tctcaatcag aacatgcccg taaggtgagt     900
ttattgcaaa gtttttgcag attttttttt tgaggggggg agtatattgt agcttttata     960
ttttcagaaa tgatgtaact acttctgcta atctcagtgt tttcttaaaa atataaatta    1020
aatggccagg tgtggtggtt catgcctgta atcccagcac tttgggaggc tgaggcaggg    1080
agatcacttg aggccaggag ttcaagacca gtctggctat catggtgaaa acctgtctct    1140
acaaaaaatt caaaaattag ccgggtgtgg tggcgcacac ctgtaatccc agctactcag    1200
gaggctgagg cataagaatc acttgaacct gggagatgga ggttgcagtg aactgacatc    1260
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atgccactgc actccagccc aaatgacaga atgagaccct gccacacaca cacacataca    1320
cacacacttt gtgtgtgtgt atgtgtgtgt gtgtatgtag gtatgtatat atatattaaa    1380
tatatttata tatttatatg taataaacat aaacataatt aaatatatat taaacgtgta    1440
tttagtagta catgtgggtg tttaattctg taattttcaa actttcagaa aatttcagag    1500
gcactatttt taagaggatt ttgtcgatgc cctctgccat gaggtgctgg agagcagctc    1560
agcactttcc ttagagcagg catgagagtg aaagctgttc atctcagatt aggtaaaccc    1620
agatttaggg tattcaaata tgtcttcatc cactccaatg tactgagcgc tgtgtgggac    1680
cttcacactt tcacactagg aaggctgtgg aaatagaaga ctggttcctg ggtctcttca    1740
aggaacgtgc cgtctggaag aagaggccta tgtgtgccac attatctggt ctaggctcta    1800
cagcacggaa gttagaggtt caggggggaag gtggtgagca ctggaatggc ggaggaaaga    1860
atcagctgag gaggggctcc tgagcagcac cacgaaggtg cgccaggatc tcctgaggcc    1920
acggagagag ttgagggcat ccaggaaggg accagcaggg gccaaggcag aggctgatgt    1980
gtggaaggct tgtctgagtg acggtgagaa cggcgtgtgg ctgcagtgta gggttcaaac    2040
tggagagcag cacgagggaa agctggacgc cagcacaggg caaagcaaaa cagacttcac    2100
cctatcacga actagaattt taatttctag aattcttttt aaaactcagc ttctgttcaa    2160
taatgagtta atgaaagagg ttattattta tccagcttaa aataagttgg tgggacaagg    2220
agggcagagt ggggatgatt ttatgcaagg ttctcagatg atccttttct cctgagcttg    2280
gaaaaatggt ggctccattt gaagacacta aggccatgtt tatctcatct ccttaatttc    2340
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ttttgttttt ataaag                                                   2416
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<210> 6
<211> 4059
<212> PRT
<213> Mus musculus

<220>
<221> VARIANT
<222> 2511
<223> Xaa = Pro or Ser

<221> VARIANT
<222> 2981
<223> Xaa = Arg or Gln

<400> 6

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Met Met Leu Ala Trp Leu Val Ser Leu Leu Ser Met Glu Val Leu Leu
 1               5                  10                  15
Leu Ala Lys Pro Tyr Ser Ser Phe Gln Phe Glu Pro Ala Glu Gly Ser
            20                  25                  30
Leu Ala Gly Gly Thr Trp Ile Thr Val Val Phe Asp Gly Leu Asp Arg
        35                  40                  45
Ser Ile Leu Tyr Pro Asn Asn Gly Ser Gln Leu Gln Ile Asp Leu Val
    50                  55                  60
Ser Val Ala Ile Pro Thr Leu Arg Ile Pro Cys Asp Val Ser Pro Ala
65                  70                  75                  80
Phe Val Asp Leu Pro Val Val Thr Cys Gln Thr Arg Ser Leu Pro Ser
                85                  90                  95
Glu Ala Asp Ala Gly Pro Tyr Ser Leu Glu Met Arg Ser Gly Glu Gln
            100                 105                 110
Val Leu Gly Thr Pro Cys Pro Gly Ser Leu Asp Ser Cys Thr Phe Lys
        115                 120                 125
```

```
Phe Ser Arg Asp Gln Thr Pro Val Leu Tyr Gln Val Tyr Pro Ala Ser
    130                 135                 140
Gly Val Pro Gly Glu Val Val Ser Val Tyr Gly Arg Val Ile Thr Thr
145                 150                 155                 160
Trp Leu Glu Thr Phe Asp Pro Asp Val Asp Tyr Ile Glu Ser Pro Leu
                165                 170                 175
Ile Leu Glu Ala Arg Glu Asp Lys Trp Leu Thr Pro Cys Ser Leu Ile
            180                 185                 190
Asn Arg Gln Thr Gly Ser Cys Phe Pro Ile Gln Glu Glu His Gly Leu
        195                 200                 205
Gly Asn Val Gln Cys Arg Val Glu Gly Asp Tyr Ile Gly Ser Gln Asn
    210                 215                 220
Val Ser Phe Ser Val Phe Asn Lys Gly Arg Ser Met Val His Lys Glu
225                 230                 235                 240
Ala Trp Leu Ile Ser Ala Lys Gln Glu Leu Phe Leu Tyr Gln Thr Tyr
                245                 250                 255
Pro Glu Ile Leu Ser Val Phe Pro Lys Val Gly Ser Leu Gly Gly Arg
            260                 265                 270
Thr Asp Ile Ile Ile Thr Gly Asp Phe Phe Asp Pro Ser Ala Arg Val
        275                 280                 285
Thr Ile Ala Gly Ile Pro Cys Asp Ile Arg Tyr Val Ser Pro Arg Lys
    290                 295                 300
Ile Glu Cys Thr Thr Arg Ala Pro Gly Asn Glu Ala Arg Leu Thr Ala
305                 310                 315                 320
Pro Gln Ala Gly Asn Arg Gly Leu Arg Phe Glu Val Gly Asp Ala Thr
                325                 330                 335
Lys Asp Val Glu Leu Thr Glu Ala Thr Pro Gly Tyr Arg Trp Gln Ile
            340                 345                 350
Val Pro Asn Ala Ser Ser Pro Ser Gly Phe Trp Ser Lys Glu Gly Arg
        355                 360                 365
Pro Phe Arg Ala Arg Leu Ser Gly Phe Phe Val Ala Pro Gln Thr Asn
    370                 375                 380
Asn Tyr Thr Phe Trp Ile Gln Ala Asp Ser Gln Ala Ser Leu Cys Phe
385                 390                 395                 400
Ser Ser Ser Glu Glu Pro Arg Thr Lys Val Glu Val Ala Ser Val Gly
                405                 410                 415
Val Gly Thr Ala Asp Trp Phe Asp Ser Trp Glu Gln Ile Gly Asn Glu
            420                 425                 430
Gly Ser Trp His Gln Lys Thr Thr Lys Leu Glu Leu Gln Gly Gly Ala
        435                 440                 445
Lys Tyr Tyr Leu Glu Ala Glu Gln His Gly Ile Ala Pro Ser Arg Gly
    450                 455                 460
Met Arg Ile Gly Val Gln Ile His Asn Thr Trp Leu Asn Pro Asp Val
465                 470                 475                 480
Val Asn Thr Tyr Leu Leu Glu Lys His Gln Ile Arg Ala Arg Ala Gln
                485                 490                 495
Arg Leu Pro Glu Ile Gln Val Leu His Val Ser Gly Lys Gly Asn Phe
            500                 505                 510
Phe Leu Thr Trp Gly Asn Val Ser Ser Gln Pro Val Pro Ala Asn Ala
        515                 520                 525
Thr Ala Gln Gln Ile Gln Thr Thr Ile Glu Glu Leu Leu Val Val Lys
    530                 535                 540
```

```
Cys Asn Leu Ala Pro Phe Ser Ala His Val Leu Leu Arg Leu Gly Phe
545                 550                 555                 560
Glu Gln Gly Leu Glu Gly Ser Arg Ser Asp Gly Val Arg Thr Ser Ser
                565                 570                 575
Thr Glu Pro Phe Cys Gly Arg Phe Ser Leu Gly Gln Leu Gly His Leu
            580                 585                 590
Ile Leu Ile Pro Glu Ala Ala Asp Lys Gly Tyr Gln Leu Asp Arg Tyr
        595                 600                 605
Pro Tyr Leu Cys Leu Ala Tyr Arg Gly His Met Asn Lys Thr Leu Asp
    610                 615                 620
Met Thr Val Ser Phe Leu Phe Gly Phe Gln Thr Ile Met Lys Asn Ile
625                 630                 635                 640
Thr Cys Asp Trp Ser Leu Thr Asp Pro His Pro Glu Ser Trp Gln Phe
                645                 650                 655
Thr Cys Ile Asn Leu Trp Asp Thr Cys Leu Cys His Ser Glu Asp Ile
            660                 665                 670
Gln Ser Ser Leu Ala Asn Thr Pro Leu Leu Ala His Arg Ile Asp Ile
        675                 680                 685
Arg Pro Val Val Pro Glu Ala Gly Leu Leu Tyr Val Asp Glu Ile Ile
    690                 695                 700
Leu Ala Asp Thr Asn Val Thr Val Ser Gln Ala Asp Ser Gly Arg Ala
705                 710                 715                 720
Cys Pro Gly Gly Asn Val Val Glu Ser Val Ser Val Val Gly Val Pro
                725                 730                 735
Pro Val Tyr Ser Ile Ser Ser Trp Leu Ala Gly Cys Gly Ser Glu Leu
            740                 745                 750
Pro Leu Ile Thr Ala Cys Ser Val Ser Thr Glu Gly Thr Gly Asp Gly
        755                 760                 765
Ser Glu Leu Ile Glu Val Thr Ala Gln Arg Leu Gln Arg Thr Ser Pro
    770                 775                 780
Pro Leu Gly Gly His Phe Phe Leu Tyr Leu Ser Asp Thr Val Ile Pro
785                 790                 795                 800
Asp Val Pro Val Arg Met Ser Ala Arg Gln Leu His Lys Leu Leu Gln
                805                 810                 815
Asp Ser Ala Asp Glu Ser Thr Ser Gly Tyr Leu Asn Ala Gly Asp Phe
            820                 825                 830
Thr Val Thr Glu Asp Leu Asn Ser Cys Tyr Glu His Val Trp Thr Leu
        835                 840                 845
Ser Trp Thr Thr Gln Thr Gly Asp Leu Pro Asn Phe Ile Arg Val Ser
    850                 855                 860
Asp Gln Asn Leu Thr Gly Val Asn Pro Thr Val Thr Ala Arg Val Val
865                 870                 875                 880
Tyr Asp Gly Gly Val Phe Leu Gly Pro Ile Phe Gly Asp Met Leu Ala
                885                 890                 895
Thr Ala Asn Gln Gln Thr Gln Val Ala Val Gln Val Asn Asp Ile Pro
            900                 905                 910
Ala Tyr Cys Ser Gly Ser Cys Ser Phe Gln Tyr Gln Gln Glu Ser Thr
        915                 920                 925
Pro Ser Val Asp His Val Trp Tyr Ser Leu Gly Ser Asp Val Asn Leu
    930                 935                 940
Leu Val His Phe Thr Gly Thr Gly Phe Pro Arg Asp Thr Gln Phe Leu
945                 950                 955                 960
```

```
Gln Val Thr Val Asn Lys Thr Ser Cys Glu Val Leu Phe Ser Asn Glu
                965                 970                 975
Thr Asn Val Ala Cys Glu Leu Ala Leu Leu Pro Val Gly Val His Gln
            980                 985                 990
Ile Phe Met Leu Val Ile Pro Ser Gly Leu Ala Val His Ala Ser Gly
        995                 1000                1005
Glu Asp Leu Leu Leu His Val Glu Pro Arg Leu Asp Ala Val Glu Pro
    1010                1015                1020
Ser Thr Ala Ala Glu Ile Gly Gly Arg Trp Val Thr Leu Arg Gly Ser
1025                1030                1035                1040
Ser Leu Glu Gly Val Ser Leu Val Leu Phe Gly Thr Gln Ser Cys Val
                1045                1050                1055
Ile Asp Ala Ile Arg Ser Asn Ser Gln Gln Ile Gln Cys Lys Val Pro
            1060                1065                1070
Pro Arg Gly Lys Asp Gly Tyr Thr Val Asn Val Thr Val Ile Ser Gly
        1075                1080                1085
Asp His Ser Thr Val Leu Ala Arg Ala Phe Thr Tyr Val Ser Ser Leu
    1090                1095                1100
Asn Pro Val Ile Val Ser Leu Ser Arg Asn Arg Ser Ser Ile Ala Gly
1105                1110                1115                1120
Gly Glu Ile Leu Phe Leu Gly Met Ser Leu Leu Val Asn Tyr Thr Asp
                1125                1130                1135
Leu Asp Val Gln Ile His Val Gln Asp Thr Ser Ala Gln Val Leu Ser
            1140                1145                1150
Gln Thr Ala Trp Gly Leu Glu Val Val Leu Pro Pro Leu Val Pro Gly
        1155                1160                1165
Ile His Val Ile Ser Ala Phe Ile Asn Gly Val Ser Ile Arg Ser Gln
    1170                1175                1180
Gly Val Asp Leu Tyr Ile Gln Tyr Leu Thr Glu Val Phe Ser Val Glu
1185                1190                1195                1200
Pro Cys Ser Gly Ser Leu Leu Gly Val Phe Leu Leu Ser Leu Leu Arg
                1205                1210                1215
Thr Gly Leu Gly Arg Asp Pro Ala Leu Ile Arg Val Leu Val Asp Asn
            1220                1225                1230
His Pro Cys Asp Ile Val Asn Leu Thr Glu Val Asn Ile Trp Cys Glu
        1235                1240                1245
Thr Pro Pro Ala Val Leu Pro Pro Arg Ala Asp Val Leu Thr Val Leu
    1250                1255                1260
Ala Ser Val Glu Ile Trp Ala Gly Asn Thr Tyr Phe Phe His Gly Pro
1265                1270                1275                1280
Ser Leu Val Gly Lys Gly Phe Thr Phe Thr Tyr Glu Ala Ala Ala Thr
                1285                1290                1295
Pro Val Val Thr Ala Met Trp Gly Glu Phe Lys Asn Asn Ser Val Arg
            1300                1305                1310
Phe Tyr Val Glu Gly Ser Asn Ile Ser Asp Ser Val Ile Leu Leu Gly
        1315                1320                1325
Ser Leu Lys Cys Glu Leu Glu Val Gln Phe Phe Gly Asp Ser Met Asn
    1330                1335                1340
Leu Ser Gly Cys Phe Phe Pro Leu His Ser Leu Glu Ala Gly Val Tyr
1345                1350                1355                1360
Thr Leu Gln Val Arg His Lys Arg Met Gly Phe Ala Asn Met Ser Val
                1365                1370                1375
```

```
Val Pro Gln Lys Phe Glu Leu Ser Pro Gln Ile Ile Ala Ile Phe Pro
            1380                1385                1390
Thr His Gly Ser Lys Cys Gly Gly Thr Val Leu Thr Val Lys Gly Met
        1395                1400                1405
Ala Phe Ser Ser Arg Lys Arg Ser Val His Val Asp Ile Ser Gly Pro
    1410                1415                1420
Phe Ala Cys Met Ile Leu Ser Leu Glu Asp His Thr Val Leu Cys Gln
1425                1430                1435                1440
Thr Arg Phe Val Gly Asp Gln Phe Ser Glu Ala Ser Leu Ala Leu Asn
                1445                1450                1455
Ile Thr Val Leu Val Asn Gly Leu Thr Ser Lys Cys Lys Gly Asn Cys
            1460                1465                1470
Thr Leu Phe Ile Glu Glu Ala Ala Thr Pro Ile Val Asp Ala Leu Thr
        1475                1480                1485
Ile Ser Ile Ser Gly Ser Leu Thr Met Val Leu Met Arg Gly Arg Arg
    1490                1495                1500
Leu Ala Thr Thr Ala Asp Glu Pro Ile Ala Phe Val Asp Asp Gln Leu
1505                1510                1515                1520
Pro Cys His Thr Thr Phe Phe Asn Thr Ser His Val Ala Cys Gln Ile
                1525                1530                1535
Arg Asp Leu Ala Pro Gly Phe His Tyr Leu Ser Ala Val His Thr Ser
            1540                1545                1550
Ala Gly Tyr Ala Cys Leu Asn Ser Val Ser Arg Asn Phe Phe Ile Val
        1555                1560                1565
Pro Gln Val Leu Asp Tyr Phe Pro Lys Asp Phe Ser Ile His Gly Gly
    1570                1575                1580
Ser Leu Leu Thr Ile Lys Gly Thr Ala Leu Arg Gly Trp Lys Ala Thr
1585                1590                1595                1600
Val Val Tyr Val Gly Arg Gln Ala Cys Leu Thr Val Asn Phe Ser Ser
                1605                1610                1615
Asp Phe Ile Gln Cys Ile Val Pro Ala Gly Asn Gly Ser Ala Ala Leu
            1620                1625                1630
Glu Ile Asp Val Asn Gly Val Leu Tyr His Ile Gly Leu Val Asp Tyr
        1635                1640                1645
Ser Ser Ile Phe Thr Pro Glu Leu Leu Ser Val Ser Arg Ser Gln Asp
    1650                1655                1660
Ile Leu Thr Phe Thr Val Ala Arg Ile Ser Gly Ala Ala Asn Val Asp
1665                1670                1675                1680
Ile Phe Ile Gly Thr Ser Pro Cys Leu Gly Val Ala Gly Asn Arg Thr
                1685                1690                1695
Val Leu Gln Cys Met Val Pro Leu Leu Pro Ala Gly Glu Tyr Leu Val
            1700                1705                1710
Thr Gly Tyr Asp His Ser Arg Gly Trp Ala Ser Ser Thr Leu Ile Leu
        1715                1720                1725
Val Leu Arg Ala Thr Val Thr Ser Val Thr Lys Asn Tyr Gly Cys Leu
    1730                1735                1740
Gly Gly Arg Leu Leu His Val Leu Gly Ala Gly Phe Ser Pro Gly Asn
1745                1750                1755                1760
Ile Ser Ala Ala Val Cys Gly Ala Pro Cys Gln Val Leu Ala Asn Ala
                1765                1770                1775
Thr Val Ser Ala Phe Ser Cys Leu Val Leu Pro Leu His Val Ser Leu
            1780                1785                1790
```

```
Ala Phe Leu Cys Asp Leu Arg His Ala Glu Asp Ser Cys Lys Val Arg
        1795                1800                1805
Ser Ser Thr Tyr Leu Arg Cys Asp Leu Thr Val Ser Met Gly Thr Glu
    1810                1815                1820
Arg Leu Pro Gly Ser Trp Pro Tyr Val Tyr Leu Cys Glu Glu Ser Ser
1825                1830                1835                1840
Leu Cys Leu Phe Glu Pro Asp His Trp Thr Glu Ser Val Phe Pro Ser
                1845                1850                1855
Phe Ser Gly Leu Phe Leu Ser Pro Lys Val Glu Arg Asp Glu Val Leu
            1860                1865                1870
Ile Tyr Asn Ser Ser Cys Asn Ile Thr Met Glu Thr Glu Ala Glu Met
        1875                1880                1885
Glu Cys Glu Met Pro Asn Gln Pro Ile Thr Ala Lys Ile Thr Glu Ile
    1890                1895                1900
Gln Lys Ser Trp Gly Gln Asn Thr Gln Gly Asn Phe Ser Phe Gln Phe
1905                1910                1915                1920
Cys Arg Arg Trp Ser Arg Pro His Ser Trp Phe Pro Gln Arg Val Pro
                1925                1930                1935
His Asp Gly Asp Ser Val Thr Val Glu Thr Gly His Leu Leu Leu Leu
            1940                1945                1950
Asp Ala Asn Thr Ser Phe Leu Asn Ser Leu His Ile Lys Gly Gly Lys
        1955                1960                1965
Leu Ile Phe Met Asp Pro Gly Pro Ile Glu Leu Arg Ala His Ser Ile
    1970                1975                1980
Leu Ile Thr Asp Gly Gly Glu Leu His Ile Gly Ser Glu Glu Lys Pro
1985                1990                1995                2000
Phe Gln Gly Lys Ala Arg Ile Lys Ile Tyr Gly Ser Val His Ser Thr
                2005                2010                2015
Pro Phe Phe Pro Tyr Gly Val Lys Phe Leu Ala Val Arg Asn Gly Thr
            2020                2025                2030
Leu Ser Leu His Gly Ser Val Pro Glu Val Thr Val Thr Tyr Leu Gln
        2035                2040                2045
Ala Ala Ala His Ala Gly Asp Lys Val Leu Thr Leu Gly Glu Ala Val
    2050                2055                2060
Asp Trp Lys Pro Gly Asp Glu Ala Val Ile Thr Ser Gly Met Thr Val
2065                2070                2075                2080
Ala Gly Ala Glu Ala Thr Glu Val Val Val Val Glu Thr Val His Asn
                2085                2090                2095
Ala Asp Leu His Leu Arg Asn Pro Leu Arg Tyr Ser Tyr Asp Phe Arg
            2100                2105                2110
Glu Asn Trp Val Ala Gly Glu Asn Pro Ile Leu Lys Pro Thr Val Ala
        2115                2120                2125
Leu Leu Ser Arg Asn Ile Ile Ile Gln Gly Asn Phe Thr Leu Glu Arg
    2130                2135                2140
Val Lys Leu Leu Asn Ser Cys Gln Glu Ala Asn Thr Ala Lys Gly Asn
2145                2150                2155                2160
Leu Lys His Cys Leu Tyr Ser Lys Ser Glu Lys Met Leu Gly Ala Arg
                2165                2170                2175
Asn Leu Gly Ala Arg Val Ile Ile Gln Ser Phe Pro Glu Glu Pro Ser
            2180                2185                2190
Leu Val Lys Leu Lys Gly Val Gln Phe Arg Asp Leu Gly Gln Ala Phe
        2195                2200                2205
```

```
His Lys His Leu Ser Ser Leu Thr Leu Val Gly Ala Met Arg Gly Ser
    2210                2215                2220
Tyr Ile Gln Ser Cys Ser Val Trp Asn Ser Phe Ser Arg Gly Leu Ser
2225                2230                2235                2240
Met His Arg Thr Trp Gly Leu Lys Val Asp Ser Asn Val Phe Tyr Lys
                2245                2250                2255
Ile Val Gly His Ala Leu Leu Leu Gly Ser Tyr Leu Asp Gly Arg Phe
            2260                2265                2270
Ser Thr Ser Glu Thr Val Thr Gly Arg Lys Asn Gly Trp Trp Glu Gln
        2275                2280                2285
Gly Ser Thr Ile Arg Asn Asn Val Ile Ile Ser Val Ser Ala Ala Glu
    2290                2295                2300
Gly Leu Ser Gly Ser Glu Met Leu Ala Pro Ala Gly Ile Tyr Thr Phe
2305                2310                2315                2320
Ser Pro Thr Asn Val Met Glu Gly Asn Arg Val Cys Ala Ala Gly Tyr
                2325                2330                2335
Gly Tyr Val Phe His Leu Val Thr Ser Gln Thr Leu Gln Ala Pro Leu
            2340                2345                2350
Leu Ser Phe Asn Trp Asn Thr Ala His Ser Cys Thr Arg Tyr Gly Leu
        2355                2360                2365
Leu Val Tyr Pro Lys Phe Gln Pro Pro Trp Asn Asn Asp Thr Gly Phe
    2370                2375                2380
Thr Leu Phe Gln Asn Phe Met Val Trp Gly Ser Ala Gly Gly Ala Gln
2385                2390                2395                2400
Ile Phe Arg Ser Asn Asn Leu His Leu Lys Asn Phe Gln Val Tyr Ala
                2405                2410                2415
Cys Arg Asp Phe Gly Ile Asp Ile Leu Glu Ser Asp Ala Asn Thr Leu
            2420                2425                2430
Ile Thr Asp Ser Phe Leu Leu Gly His Phe Thr His Lys Gly Ser Leu
        2435                2440                2445
Cys Met Ser Ala Gly Ile Lys Thr Pro Gln Arg Trp Glu Leu Thr Ile
    2450                2455                2460
Ser Asn Thr Thr Phe Val Asn Phe Asp Gly Asn Cys Val Ala Ile Arg
2465                2470                2475                2480
Thr Cys Ser Gly Cys Phe Gln Gly Gln Gly Gly Tyr Thr Val Lys Thr
                2485                2490                2495
Arg Gln Leu Lys Phe Val Asn Ser Ser Asn Leu Val Ala Phe Xaa Phe
            2500                2505                2510
Pro His Ala Ala Val Leu Glu Asp Leu Asp Gly Ser Leu Ser Gly Lys
        2515                2520                2525
Asn Gly Ser His Val Leu Ala Ser Met Glu Thr Leu Ser Asp Thr Cys
    2530                2535                2540
Leu Thr Asn Ala Ser Phe Ser Gln Ile Val Pro Gly Ser Val Cys Gly
2545                2550                2555                2560
Glu Ala Val Leu Phe His Arg Met Ser Ile Ala Leu Ala Asn Ser Leu
                2565                2570                2575
Asp Val Pro Lys Asn Leu Thr Ile Thr Asp Ile Ser Asn Lys Thr Ile
            2580                2585                2590
Thr Val Asn Tyr Val Glu Asp Thr Leu Ser Asn Tyr Tyr Gly Trp Met
        2595                2600                2605
Ala Leu Leu Leu Asp Gln Glu Thr Tyr Ser Leu Gln Phe Glu Ser Pro
    2610                2615                2620
```

```
Trp Met Asn Arg Ser Leu Gln Tyr Ser Ala Thr Phe Asp Ser Phe Ala
2625                2630                2635                2640
Pro Gly Asn Tyr Leu Leu Ile Met His Arg Asp Leu Pro Pro Tyr Pro
                    2645                2650                2655
Asp Ile Leu Leu Arg Cys Gly Ser Gln Val Gly His Ser Leu Pro Phe
            2660                2665                2670
His Pro Leu Pro Ser Gln Asp Arg Ala Cys Asp Trp Phe Phe Asn Arg
        2675                2680                2685
Gln Leu Arg Gln Leu Thr Tyr Leu Val Ser Gly Glu Gly Gln Val Lys
    2690                2695                2700
Val Phe Leu Gln Leu Lys Pro Gly Val Pro Pro Ser Val Ser Ala Ser
2705                2710                2715                2720
Thr Ser Val Pro Glu Ser Ala Ser Arg Trp Ser Leu Pro Glu Thr Trp
                    2725                2730                2735
Gln Asp Val Glu Lys Gly Trp Gly Gly Tyr Asn His Thr Ile Pro Gly
            2740                2745                2750
Pro Gly Asp Asp Val Leu Ile Leu Pro Asn Lys Thr Val Leu Val Asp
        2755                2760                2765
Thr Asp Leu Pro Val Leu Arg Cys Leu Tyr Val Met Gly Thr Leu Glu
    2770                2775                2780
Phe Pro Val Asp Arg Ser Asn Val Leu Ser Val Ala Cys Leu Leu Ile
2785                2790                2795                2800
Ala Gly Gly Glu Leu Lys Val Gly Thr Leu Glu Asn Pro Leu Glu Lys
                    2805                2810                2815
Asp Gln Arg Leu Leu Ile Phe Leu Arg Ala Ser Glu Glu Val Val Cys
            2820                2825                2830
Asp Tyr Phe Glu Gly Ile His Val Asp Pro Gly Thr Ile Gly Val Tyr
        2835                2840                2845
Gly Lys Leu Arg Leu His Ser Ala Tyr Pro Lys Lys Ser Trp Val His
    2850                2855                2860
Leu Gly Ala Asp Ile Ala Pro Gly Asn Glu Arg Ile Ile Val His Asn
2865                2870                2875                2880
Ala Val Asp Trp Gln Pro His Asp Thr Ile Val Leu Ser Ser Ser Ser
                    2885                2890                2895
Tyr Glu Ala His Glu Ala Glu Val Leu Thr Val Lys Glu Val Lys Gly
            2900                2905                2910
His His Ile Arg Ile Tyr Glu Arg Leu Lys His Arg His Ile Gly Ser
        2915                2920                2925
Thr His Thr Met Glu Asp Gly Gln Gln Val His Leu Ala Ala Glu Val
    2930                2935                2940
Gly Leu Leu Thr Arg Asn Ile Arg Ile Gln Pro Asp Ser Ser Cys Arg
2945                2950                2955                2960
Gly Arg Leu Leu Val Gly Ser Phe Arg Lys Ser Ser Gly Glu Asp Phe
                    2965                2970                2975
Ser Gly Val Leu Xaa Leu Leu Asn Val Glu Ile Gln Asn Met Gly Leu
            2980                2985                2990
Pro Leu Tyr Ser Ser Ile Glu Phe Thr Gly Val Ser Ala Gly Ser Trp
        2995                3000                3005
Val Ile Ser Ser Thr Val His Gln Ser Cys Ser Val Gly Ile His Ala
    3010                3015                3020
Ser Ser Ser His Gly Val Ile Leu Thr Asp Asn Val Val Phe Gly Thr
3025                3030                3035                3040
```

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Asn Gly His Gly Ile Asp Val Glu Gly Gln Asn Tyr Ser Leu Thr Asn
                3045                3050                3055
Asn Leu Val Ile Leu Thr Met Gln Ser Ala Asn Ser Ser Pro Trp Val
            3060                3065                3070
Ala Gly Ile Lys Val Asn Tyr Ala Glu Asp Ile Ile Leu His Gly Asn
        3075                3080                3085
Val Val Ala Gly Ser Glu Arg Leu Gly Phe His Val Gly Gly His Gly
    3090                3095                3100
Cys Ser Ser Glu Val Leu Trp Ser Asp Asn Val Val His Ser Ser Leu
3105                3110                3115                3120
His Gly Leu His Leu Tyr Lys Lys His Glu Ser Asn Asn Cys Thr Gly
                3125                3130                3135
Val Ser Gly Phe Met Ala Phe Lys Asn Phe Asp Tyr Gly Ala Met Val
            3140                3145                3150
Gln Thr Glu Asn Ser Val Asp Ile Gln Asn Ile Thr Leu Val Asp Asn
        3155                3160                3165
Thr Val Gly Leu Leu Ala Ile Thr Tyr Val Ser Ser Ala Leu Leu Ser
    3170                3175                3180
Ser Val Ser Thr Val Gln Ile Thr Leu Arg Asn Ser Val Ile Val Ala
3185                3190                3195                3200
Thr Ser Ser Ser Phe Asp Cys Ile His Asp Arg Lys Ala Pro Gln Ser
                3205                3210                3215
Ala Asn Trp Thr Ser Thr Asp Arg Ala Pro Ser Asn Pro Arg Gly Gly
            3220                3225                3230
Arg Ile Gly Ile Leu Trp Pro Val Ser Ala Ser Glu Pro Asn Ala Trp
        3235                3240                3245
Pro Gln Glu Pro Trp His Lys Val Arg Ser Arg His Ser Val Pro Gly
    3250                3255                3260
Ile Met Lys Leu Gln Asp Val Thr Phe Ser Ser Phe Val Lys Ser Cys
3265                3270                3275                3280
Tyr Ser Asn Asp Leu Asp Val Cys Ile Leu Pro Asn Glu Tyr Ser Thr
                3285                3290                3295
Gly Val Met Tyr Pro Ile Thr Ala Glu Arg Thr Arg Met Leu Gly Ile
            3300                3305                3310
Lys Asp Lys Asn Lys Phe Tyr Phe Pro Val Leu Gln Ser Ser Lys Asp
        3315                3320                3325
Leu Val Gly Thr Ile Cys Pro Thr Leu Val Cys Glu Tyr Pro Arg Lys
    3330                3335                3340
Tyr Leu Phe Thr Asp Leu Asp Gly Arg Thr Leu Gly Leu Pro Pro Pro
3345                3350                3355                3360
Val Ser Val Phe Pro Arg Thr Glu Glu Glu Trp Thr Gly Ser Phe Leu
                3365                3370                3375
Asn Thr Gly Ile Phe Arg Glu Glu Gln Lys Cys Thr Phe Arg Ala Met
            3380                3385                3390
Asn Gln Gly Phe Phe Cys Lys Gln Thr Glu His Ala Val Leu Ile Leu
        3395                3400                3405
Asp Asn Val Asp Ala Thr Trp Thr Ile Pro Lys Ser His Pro Leu Val
    3410                3415                3420
Ser Val Thr Asn Gly Phe Val Asp Thr Phe Ser Ile Val Lys Asp Ser
3425                3430                3435                3440
Asp Leu Cys Pro Pro Thr Ser Ser Leu Ser Thr Phe Tyr Ser Ile Leu
                3445                3450                3455
```

```
Pro Thr Arg Gln Met Thr Lys Val Cys Phe Pro Glu Gln Thr Pro Pro
            3460                3465                3470
Phe Leu Arg Phe Leu Leu Leu Gly Asn Gln Arg Ala Ser Lys Leu Ile
        3475                3480                3485
Leu Ala Val Phe Tyr Asn Glu Ile Gln Ser Pro His Val Phe Leu Asp
    3490                3495                3500
Lys Ser Phe Ile Pro Pro Thr Pro Leu Glu Ser Ala Phe Ser Leu Leu
3505                3510                3515                3520
Ala Glu Pro Ser Gly Ala Asn Tyr Phe Asp Ile Met Asn Asn Leu Leu
                3525                3530                3535
Tyr Val Val Leu Gln Gly Glu Glu Pro Val Glu Ile His Ser Ser Val
            3540                3545                3550
Ser Ile His Leu Ala Leu Thr Val Thr Phe Ser Val Leu Glu Lys Gly
        3555                3560                3565
Trp Glu Arg Ala Met Leu Glu Ser Leu Ser Asp Phe Phe Gln Ile Asp
    3570                3575                3580
Pro Asn Gln Ile Arg Leu Thr Leu Glu Met Pro Gly Asn Lys Glu Thr
3585                3590                3595                3600
Leu Glu Ala Ile Ala Asn Ser Glu Arg Lys Arg Lys Arg Asn Cys Pro
                3605                3610                3615
Ser Val Thr Cys Gly Gly Pro Ser Ile Arg Tyr Gly Gln Arg Arg Pro
            3620                3625                3630
Leu Met Ala Glu Met Thr Ser Leu Lys Ile Thr Pro Ala Thr Thr Leu
        3635                3640                3645
Glu Thr Phe Ser Lys Val Ile Val Ile Glu Val Gly Asp Leu Pro Asn
    3650                3655                3660
Ile Arg Asn Ser Glu Pro Ile Gln Ser Leu Pro Ser Asn Arg Leu Gln
3665                3670                3675                3680
Arg Leu Val Asn Gln Val Ile Thr Ala Gln Gln Thr Gly Ala Leu Glu
                3685                3690                3695
Asn Val Leu Gly Met Thr Val Gly Ala Leu Leu Val Thr Gln Ser Lys
            3700                3705                3710
Gly Val Thr Gly Tyr Arg Asn Ala Ser Ser Leu Ile Thr Gly Asn Leu
        3715                3720                3725
Ile Tyr Thr Arg Pro Ser Glu Leu Ser Ile Leu Val Gln Pro Ser Asp
    3730                3735                3740
Gly Glu Val Gly Ile Glu Leu Pro Val Gln Pro Arg Leu Val Phe Leu
3745                3750                3755                3760
Asp Glu Lys Asn Glu Arg Val Glu Ser Leu Gly Leu Pro Ser Glu Pro
                3765                3770                3775
Trp Ile Ile Ser Val Ser Leu Glu Gly Ala Ser Glu Ser Val Leu Lys
            3780                3785                3790
Gly Cys Thr Leu Ala Glu Thr Arg Asp Gly Tyr Val Thr Phe Ser Arg
        3795                3800                3805
Leu Ala Val Leu Ile Ser Gly Ser Asn Trp His Leu Phe Phe Thr Val
    3810                3815                3820
Ile Ser Pro Pro Gly Thr Asn Phe Thr Ala Arg Ser Arg Thr Phe Val
3825                3830                3835                3840
Val Leu Pro Val Ala Ser Lys Glu Arg Ser Thr Ile Ile Leu Ala Leu
                3845                3850                3855
Ser Leu Cys Ser Val Ala Ser Trp Val Ala Leu Ser Cys Leu Val Cys
            3860                3865                3870
```

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Cys Trp Phe Lys Lys Ser Lys Thr Arg Lys Ile Lys Pro Glu Asp Ile
        3875                3880                3885
Ser Glu Ser Gln Ala Lys Glu Gln Lys Lys Asn Thr His Asn Ser Ser
    3890                3895                3900
Lys Pro Arg Gly Leu Gln Ala Lys Thr Ala Lys Glu Asn Thr Leu Met
3905                3910                3915                3920
Gly Glu Asp Met Arg Met Lys Val Met Gln Gly Met Gln Ser Gln Phe
                3925                3930                3935
Pro Gln His Ser Met Asp Gly Val Ser Lys Arg Lys Val Ser Arg Leu
            3940                3945                3950
Ala Val Thr Gly Glu Arg Thr Ala Thr Pro Ala Pro Lys Ile Pro Arg
        3955                3960                3965
Ile Thr Cys Val Pro Gly Ser Leu Ala Gln Gln Leu Thr Leu Gln Glu
    3970                3975                3980
Pro Gly Asn Trp Gln Glu Ala Gln Gln Gln Leu Leu Arg Tyr Gln Leu
3985                3990                3995                4000
Ala Gly Arg Asn Gln Leu Leu Leu Leu Arg Pro Asp Leu Arg Gln Glu
                4005                4010                4015
Arg Lys Gln Gly Gln Glu Pro Ser Gln Leu Asp Lys Gly Ser Asp Cys
            4020                4025                4030
Thr Gly Leu Ser Gln Glu Lys Ala Thr Cys Ile Pro Thr Glu Thr Phe
        4035                4040                4045
Gly Leu His Thr Thr Pro Pro Glu Thr Ile Gln
    4050                4055
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<210> 7
<211> 4051
<212> PRT
<213> Rattus norvegicus

<400> 7

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Met Pro Ala Trp Arg Ile Ser Leu Leu Ser Val Glu Leu Leu Leu Leu
 1               5                  10                  15
Ala Asn Ala Tyr Ser Ser Phe Arg Ile Glu Pro Thr Glu Gly Ser Leu
            20                  25                  30
Ala Gly Gly Thr Trp Ile Thr Leu Val Phe Asp Gly Leu Glu Thr Ser
        35                  40                  45
Ile Leu Tyr Pro Asn Asn Gly Ser Gln Leu Ala Ile Asp Leu Val Asn
    50                  55                  60
Val Ala Thr Pro Ala Leu Lys Ile Pro Cys Asp Ile Ser Pro Leu Phe
65                  70                  75                  80
Val Asp Leu Pro Val Val Thr Cys Gln Thr Arg Ser Leu Pro Ser Glu
                85                  90                  95
Ala Pro Glu Gly Leu Tyr Ser Leu Glu Ile Arg Ser Gly Asp Gln Leu
            100                 105                 110
Leu Gly Ser Pro Cys Ala Arg Leu Leu Asp Asn Cys Thr Phe Lys Phe
        115                 120                 125
Ser Lys Glu Gln Thr Pro Val Leu Tyr Gln Val Asn Pro Ser Ser Gly
    130                 135                 140
Val Pro Gly Glu Val Val His Val Tyr Gly Trp Val Ile Thr Asp Arg
145                 150                 155                 160
Met Glu Ile Phe Asp Pro Asp Val Asp Tyr Met Glu Ser Pro Leu Ile
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                165                 170                 175
Leu Glu Ala Gly Gly Asp Lys Trp Leu Thr Pro Cys Ser Leu Ile Asn
            180                 185                 190
Arg Lys Thr Gly Ile Cys Phe Pro Ile Gln Glu Glu His Gly Leu Gly
        195                 200                 205
Thr Val Gln Cys Arg Val Glu Gly Ser Tyr Ile Gly Ser Gln Asn Val
    210                 215                 220
Ser Phe Ser Val Phe Asn Lys Gly Arg Ser Met Val His Lys Glu Ala
225                 230                 235                 240
Trp Leu Ile Ser Ala Lys Gln Glu Leu Phe Leu Tyr Gln Thr Tyr Pro
                245                 250                 255
Glu Ile His Ser Val Phe Pro Lys Val Gly Ser Leu Gly Gly Arg Thr
            260                 265                 270
Asp Ile Thr Ile Thr Gly Asp Phe Phe Asp Pro Ser Ala Arg Val Thr
        275                 280                 285
Ile Ala Gly Ile Pro Cys Asp Ile Arg His Val Ser Pro Lys Lys Ile
    290                 295                 300
Glu Cys Thr Thr Arg Ala Pro Arg Asn Gly Ala Arg Leu Thr Ala Pro
305                 310                 315                 320
Gln Ala Ser Asn Arg Gly Leu Leu Phe Glu Val Gly Asn Ala Val Lys
                325                 330                 335
Asp Glu Glu Leu Thr Glu Ala Thr Pro Gly Tyr Arg Trp Gln Ile Val
            340                 345                 350
Pro Asn Ala Ser Ser Pro Ser Gly Phe Trp Ser Lys Glu Gly Arg Pro
        355                 360                 365
Phe Arg Ala Arg Leu Ser Gly Phe Phe Val Ala Pro Glu Thr Asn Asn
    370                 375                 380
Tyr Thr Phe Trp Ile Gln Ala Asp Ser Gln Ala Phe Leu Arg Phe Ser
385                 390                 395                 400
Ser Ser Glu Glu Pro Arg Met Lys Val Glu Val Ala Ser Ile Ala Val
                405                 410                 415
Gly Thr Ala Asp Trp Phe Asp Ser Trp Glu Gln Asn Gly Asn Glu Gly
            420                 425                 430
Ser Trp Gln Gln Lys Thr Asn Lys Leu Glu Leu Gln Gly Gly Ala Lys
        435                 440                 445
Tyr Tyr Leu Glu Ala Glu Gln His Gly Ile Ala Pro Ser Arg Gly Met
    450                 455                 460
Arg Ile Ala Val Gln Ile His Asn Thr Trp Leu Asn Pro Asp Val Val
465                 470                 475                 480
Asn Thr Tyr Leu Leu Glu Lys His Gln Ile Arg Ala Gln Ala Gln Arg
                485                 490                 495
Leu Pro Glu Ile Gln Val Leu Asn Met Ser Gly Lys Gly Asn Phe Phe
            500                 505                 510
Leu Thr Trp Gly Asn Val Ser Ser Gln Pro Val Pro Ala Asn Ala Thr
        515                 520                 525
Ala Gln Gln Ile Gln Thr Ile Ile Glu Glu Leu Leu Val Val Lys Cys
    530                 535                 540
Asn Leu Val Pro Leu Ser Ala Arg Val Leu Leu Trp Leu Gly Phe Glu
545                 550                 555                 560
Gln Gly Leu Asp Gly Ser Arg Ser Asp Gly Val Leu Thr Ser Ser Thr
                565                 570                 575
Glu Pro Phe Cys Gly Arg Phe Ser Leu Gly Gln Leu Arg His Leu Ile
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            580                 585                 590
Leu Ser Pro Gly Ala Val Ser Lys Gly Tyr Gln Leu Asp Arg Tyr Pro
        595                 600                 605
Tyr Leu Cys Phe Ala Tyr Arg Gly His Met Asn Arg Thr Leu Asp Met
    610                 615                 620
Thr Val Ser Phe Leu Phe Gly Phe Gln Asn Val Met Lys Asn Ile Thr
625                 630                 635                 640
Cys Asp Trp Ser Leu Met Glu Pro His Pro Glu Ser Trp His Phe Thr
                645                 650                 655
Cys Asn Asn Leu Trp Asp Thr Cys Val Arg His Ser Glu Glu Leu Gln
            660                 665                 670
Ser Ser Leu Ala Asn Thr Pro Leu Leu Val His Arg Ile Asp Ile Phe
        675                 680                 685
Pro Val Val Pro Glu Ala Asp Leu Leu Tyr Val Asp Glu Ile Ile Leu
    690                 695                 700
Ala Asp Thr Asn Val Thr Val Ser Gln Ala Asp Ser Gly Val Ala Arg
705                 710                 715                 720
Pro Gly Gly Asn Val Val Glu Ser Val Ser Val Val Gly Val Pro Pro
                725                 730                 735
Val Tyr Ser Ile Ala Ser Trp Met Ala Gly Cys Gly Ser Glu Leu Pro
            740                 745                 750
Leu Ile Thr Ala Cys Tyr Val Pro Thr Gln Gly Thr Gly Glu Gly Ser
        755                 760                 765
Glu Leu Ile Glu Val Thr Ala Lys Arg Leu Gln Arg Thr Ser Pro Pro
    770                 775                 780
Leu Gly Gly His Phe Ser Leu His Leu Ser Asp Thr Val Ile Pro Asp
785                 790                 795                 800
Val Pro Val His Val Ser Ala Arg Gln Leu His Lys Leu Leu Gln Asp
                805                 810                 815
Asn Ala Asp Glu Ser Thr Ser Gly Tyr Leu Asn Ala Asp Asp Phe Ile
            820                 825                 830
Val Thr Lys Asp Gln Asn Ser Cys Tyr Glu His Val Trp Thr Leu Ser
        835                 840                 845
Trp Thr Thr Gln Ile Gly Asp Leu Pro Asn Phe Ile Arg Val Ser Asp
    850                 855                 860
Gln Asn Leu Thr Gly Leu Asn Pro Thr Ile Thr Ala Arg Val Val Tyr
865                 870                 875                 880
Asp Gly Gly Val Phe Leu Gly Pro Ile Leu Gly Asp Thr Leu Ala Thr
                885                 890                 895
Ala Asn Gln Gln Thr Gln Val Thr Val Gln Val Asn Asp Ile Pro Ala
            900                 905                 910
His Cys Ser Gly Ser Cys Ser Phe Gln Tyr Gln Arg Ala Ser Thr Pro
        915                 920                 925
Ser Val Asp Cys Val Trp Tyr Ser Leu Gly Ser Asp Val Asn Leu Leu
    930                 935                 940
Val His Phe Thr Gly Asn Gly Phe Pro Arg Asp Ala Gln Phe Leu Gln
945                 950                 955                 960
Val Thr Val Ile Asn Thr Ser Cys Glu Val Ile Phe Ser Asn Glu Thr
                965                 970                 975
Asn Val Ala Cys Glu Leu Ala Leu Leu Pro Val Gly Val His Arg Val
            980                 985                 990
Phe Met Leu Val Arg Pro Ser Gly Leu Ala Leu Asn Ala Ser Gly Glu
```

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        995                 1000                1005
Gly Leu Phe Leu Arg Val Glu Pro Arg Leu Asp Ala Val Glu Pro Ser
    1010                1015                1020
Thr Gly Ala Glu Ile Gly Gly Trp Trp Val Thr Leu Arg Gly Ser Ser
1025                1030                1035                1040
Leu Glu Gly Val Ser Leu Val Leu Phe Gly Thr Arg Ser Cys Val Ile
                1045                1050                1055
Asp Val Ile Arg Ser Asn Ser Gln Gln Ile Gln Cys Lys Val Pro Pro
            1060                1065                1070
Arg Gly Lys Asp Gly Tyr Thr Val Asn Val Thr Val Ile Asn Gly Asp
        1075                1080                1085
His Ser Thr Val Leu Ala Arg Ala Phe Thr Tyr Val Ser Ser Leu Asn
    1090                1095                1100
Pro Val Ile Val Ser Leu Ser Arg Asn Arg Ser Asn Ile Ala Gly Gly
1105                1110                1115                1120
Glu Ile Leu Phe Leu Gly Met Thr Leu Met Val Asn Tyr Thr Asp Leu
                1125                1130                1135
Asn Val Gln Ile Tyr Ile Gln Asn Thr Ser Ala Gln Val Leu Ala Lys
            1140                1145                1150
Thr Ala Trp Gly Leu Glu Val Leu Leu Pro Pro Leu Leu Pro Gly Ile
        1155                1160                1165
Tyr Val Ile Ser Ala Phe Ile Asn Gly Ile Ser Ile Arg Ser Gln Gly
    1170                1175                1180
Val Asp Leu His Ile Gln Tyr Leu Thr Glu Val Phe Ser Met Glu Pro
1185                1190                1195                1200
Cys Ser Gly Ser Leu Leu Gly Gly Thr Ile Leu Arg Leu Ser Gly Ala
                1205                1210                1215
Gly Leu Gly Arg Asp Pro Ala Leu Ile Arg Val Leu Val Asp Asn Arg
            1220                1225                1230
Pro Cys Asp Thr Val Lys Leu Thr Glu Val Asn Ile Trp Cys Glu Thr
        1235                1240                1245
Pro Arg Val Leu Leu Pro Pro Arg Ala Asp Val Leu Thr Val Pro Ala
    1250                1255                1260
Ser Val Glu Ile Trp Ala Gly Asn Thr Ser Phe Val Gly Lys Ala Phe
1265                1270                1275                1280
Ile Phe Thr Tyr Glu Ala Ala Ala Thr Pro Val Val Thr Ala Met Trp
                1285                1290                1295
Gly Glu Leu Met Asn Asn Ser Val Arg Phe Tyr Val Glu Gly Asn Asn
            1300                1305                1310
Leu Ser Asp Ser Val Ile Leu Leu Gly Ser Leu Lys Cys Asp Leu Gln
        1315                1320                1325
Val Gln Leu Phe Gly Asp Asn Met Asn Leu Ser Gly Cys Ser Leu Leu
    1330                1335                1340
Leu His Ser Leu Glu Ala Gly Val Tyr Ala Leu Gln Val Arg His Lys
1345                1350                1355                1360
Arg Met Gly Phe Ala Asn Met Ser Ala Val Pro Gln Lys Phe Glu Leu
                1365                1370                1375
Ser Pro Gln Ile Ile Asp Ile Phe Pro Thr His Gly Ser Ile Tyr Gly
            1380                1385                1390
Gly Thr Val Leu Thr Val Lys Gly Thr Ala Phe Arg Ser Arg Arg Arg
        1395                1400                1405
Ser Val His Val Asp Leu Ser Gly Pro Phe Thr Cys Val Ile Leu Ser
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    1410                1415                1420
Leu Gly Asp His Thr Val Leu Cys Gln Thr Lys Phe Val Gly Asp Gln
1425                1430                1435                1440
Phe Ser Glu Thr Ser Leu Ala Leu Asn Ile Thr Val Leu Val Asn Gly
                1445                1450                1455
Leu Thr Ser Lys Cys Glu Gly Asn Cys Thr Leu Phe Leu Glu Glu Ala
            1460                1465                1470
Ala Thr Pro Ile Val Asp Ala Leu Thr Ile Ser Ile Ser Gly Ser Leu
        1475                1480                1485
Thr Thr Val Leu Met Arg Gly Gln Arg Leu Gly Ser Ala Gly Glu Pro
    1490                1495                1500
Thr Ala Phe Val Asp Gly Gln Leu Leu Cys His Thr Thr Phe Phe Asn
1505                1510                1515                1520
Thr Ser Tyr Val Ala Cys Gln Met Arg Asp Leu Ala Pro Gly Phe His
                1525                1530                1535
Tyr Leu Ser Ala Val Arg Thr Ser Ala Gly Tyr Ala Cys Leu Asn Ser
            1540                1545                1550
Val Ser Arg Asn Phe Phe Val Val Pro Gln Val Phe Asp Tyr Phe Pro
        1555                1560                1565
Lys Asp Phe Ser Ile His Gly Gly Ser Leu Leu Thr Ile Lys Gly Thr
    1570                1575                1580
Thr Leu Arg Gly Trp Lys Thr Thr Phe Val Tyr Val Gly Gln Gln Ala
1585                1590                1595                1600
Cys Leu Thr Val Asn Ile Ser Ser Glu Phe Ile Gln Cys Ile Val Pro
                1605                1610                1615
Ala Gly Asn Gly Ser Ala Ala Leu Glu Ile Asp Val Asp Gly Val Leu
            1620                1625                1630
Tyr His Met Gly Phe Val Asp Tyr Ser Ser Ile Phe Thr Pro Glu Leu
        1635                1640                1645
Leu Ser Val Ser Arg Ser His Asp Ile Leu Thr Phe Thr Val Ala Arg
    1650                1655                1660
Ile Ser Gly Ala Ala Asn Val Asp Ile Leu Ile Gly Thr Ser Pro Cys
1665                1670                1675                1680
Leu Asp Val Ala Gly Asn Arg Thr Ile Leu Arg Cys Met Val Pro Leu
                1685                1690                1695
Leu Pro Ala Gly Glu Tyr Ala Val Thr Gly Tyr Asp His Ser Arg Gly
            1700                1705                1710
Trp Val Ser Ser Thr Leu Ile Leu Val Leu Arg Ala Thr Val Thr Ser
        1715                1720                1725
Val Thr Glu Asn Tyr Gly Cys Leu Gly Gly Arg Leu Leu His Val Leu
    1730                1735                1740
Gly Ala Gly Phe Ser Pro Gly Asn Ile Ser Ala Ala Val Cys Gly Ala
1745                1750                1755                1760
Pro Cys Gln Val Leu Ala Asn Ala Thr Val Ser Ala Phe Ser Cys Leu
                1765                1770                1775
Val Leu Pro Leu Asp Ala Ser Leu Ala Phe Leu Cys Asn Leu Arg His
            1780                1785                1790
Ala Glu Asp Ser Cys Gly Val Ser Arg Pro Thr Tyr Leu Gln Cys Asp
        1795                1800                1805
Leu Thr Val Ser Val Gly Met Glu Arg Leu Pro Gly Ser Trp Pro Tyr
    1810                1815                1820
Val Tyr Leu Cys Glu Glu Ser Ser Gln Gly Leu Phe Val Pro Asp His
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1825 1830 1835 1840
Gln Ile Phe Leu Ser Phe Ser Gly Leu Phe Leu Ser Pro Lys Val Glu
1845 1850 1855
Arg Asp Glu Val Leu Ile Tyr Asn Ser Ser Cys Asn Ile Thr Met Glu
1860 1865 1870
Thr Glu Ala Glu Met Glu Cys Gly Thr Pro Asn Gln Pro Ile Thr Ala
1875 1880 1885
Lys Ile Thr Glu Ile Gln Lys Ser Arg Gly Gln Asn Thr Gln Gly Asn
1890 1895 1900
Phe Ser Phe Gln Phe Cys Arg Arg Trp Ser Arg Pro His Ser Trp Phe
1905 1910 1915 1920
Pro His Arg Val Pro Gln Asp Gly Asp Asn Val Thr Val Glu Thr Ser
1925 1930 1935
His Leu Leu Leu Leu Asp Ala Asn Thr Ser Leu Leu Asn Ser Leu His
1940 1945 1950
Ile Lys Gly Gly Lys Leu Ile Phe Met Glu Pro Gly Pro Ile Asp Leu
1955 1960 1965
Arg Ala His Ser Ile Leu Ile Thr Asp Gly Gly Glu Leu His Ile Gly
1970 1975 1980
Ser Glu Asp Lys Pro Phe Gln Gly Lys Ala Arg Ile Lys Leu Tyr Gly
1985 1990 1995 2000
Ser Val His Ser Thr Ser Phe Phe Pro Tyr Gly Val Lys Phe Leu Ala
2005 2010 2015
Val Arg Asn Gly Thr Leu Ser Leu His Gly Ser Val Pro Glu Val Thr
2020 2025 2030
Phe Thr Tyr Leu Arg Ala Ala Ala Cys Ala Gly Asp Thr Val Leu Ala
2035 2040 2045
Leu Glu Glu Ala Val Ala Trp His Pro Gly Asp Glu Ala Val Ile Ser
2050 2055 2060
Ser Gly Ala Thr Val Glu Gly Ala Glu Ala Thr Glu Glu Val Val Val
2065 2070 2075 2080
Val Glu Thr Val His Asp Ala Asp Leu His Leu Arg Asn Pro Leu Arg
2085 2090 2095
Tyr Ser Tyr Asn Phe Thr Glu Asn Trp Val Thr Gly Val Asn His Ile
2100 2105 2110
Leu Lys Ala Thr Val Ala Leu Leu Ser Arg Asn Ile Ile Val Gln Gly
2115 2120 2125
Asn Leu Thr Leu Glu Arg Val Lys Leu Leu Asp Ser Cys Gln Glu Ala
2130 2135 2140
Gly Ala Ala Glu Gly Asn Leu Lys His Cys Leu Tyr Ser Lys Ser Glu
2145 2150 2155 2160
Lys Met Leu Gly Ala Arg Asn Leu Gly Ala Arg Val Ile Ile Gln Ser
2165 2170 2175
Phe Pro Glu Glu Pro Ser Leu Val Lys Leu Lys Gly Val Gln Phe Arg
2180 2185 2190
Asp Leu Gly Gln Ala Phe His Lys His Leu Ser Ser Leu Thr Leu Val
2195 2200 2205
Gly Ala Met Arg Gly Ser Tyr Leu His Ser Cys Ser Met Trp Gly Ser
2210 2215 2220
Phe Ser Arg Gly Leu Ser Ile His Arg Thr Trp Gly Leu Lys Val Glu
2225 2230 2235 2240
Asn Asn Ile Phe Tyr Lys Ile Val Gly His Ala Leu Leu Val Gly Ser

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                2245                2250                2255
Tyr Met Asp Arg Ser Phe Ser Thr Ser Glu Ala Val Ile Gly Arg Lys
            2260                2265                2270
Asn Gly Trp Trp Glu Glu Gly Ser Met Ile Arg Asn Asn Val Ile Ile
        2275                2280                2285
Asn Val Ser Gly Ala Glu Gly Leu Ser Ser Ser Glu Met Leu Ala Pro
    2290                2295                2300
Ala Gly Ile Tyr Thr Phe Ser Pro Thr Ser Ala Ile Glu Gly Asn Arg
2305                2310                2315                2320
Val Cys Ala Ala Gly Tyr Gly Tyr Val Leu His Leu Val Thr Ser Gln
                2325                2330                2335
Thr Val Gln Ala Pro Leu Leu Ser Phe Asn Trp Asn Thr Ala His Ser
            2340                2345                2350
Cys Thr Arg Tyr Gly Leu Leu Val Tyr Pro Glu Phe Gln Pro Pro Trp
        2355                2360                2365
Asn Asn Asp Thr Gly Phe Thr Leu Phe Gln Asn Phe Met Val Trp Gly
    2370                2375                2380
Ser Ala Gly Gly Ala Gln Ile Phe Arg Ser Asn Asn Leu His Leu Arg
2385                2390                2395                2400
Asn Phe Gln Val Tyr Ala Cys Arg Asp Phe Gly Ile Asp Ile Leu Glu
                2405                2410                2415
Ser Asp Thr Asn Thr Leu Val Thr Asp Ser Phe Leu Leu Gly His Phe
            2420                2425                2430
Thr His Glu Gly Ser Leu Cys Met Ser Val Gly Ile Lys Thr Pro Lys
        2435                2440                2445
Arg Trp Gly Leu Thr Ile Ser Asn Thr Thr Phe Val Asn Phe Asp Leu
    2450                2455                2460
Asn Cys Val Ala Ile Arg Thr Cys Ser Gly Cys Ser Gln Gly Gln Gly
2465                2470                2475                2480
Gly Phe Pro Val Lys Thr Arg Gln Leu Lys Phe Val Asn Ser Ser Asn
                2485                2490                2495
Leu Val Ala Phe Pro Phe Pro His Ala Ala Val Leu Gln Asp Leu Asp
            2500                2505                2510
Gly Ser Leu Ser Gly Lys Asn Gly Ser His Val Leu Ala Ser Met Glu
        2515                2520                2525
Thr Leu Ser Asp Thr Cys Leu Thr Asn Ala Ser Phe Ser Gln Ile Val
    2530                2535                2540
Ser Gly Ser Val Cys Gly Glu Ala Val Leu Phe His Arg Met Ser Ile
2545                2550                2555                2560
Gly Leu Ala Lys Ser Leu Asp Val Pro Lys Asn Leu Thr Met Thr Asp
                2565                2570                2575
Ile Arg Asn Arg Thr Ile Thr Ile Asn Tyr Val Asp Asp Thr Leu Ser
            2580                2585                2590
Asn Ser Tyr Gly Trp Met Ala Leu Leu Leu Asp Gln Glu Thr Tyr Leu
        2595                2600                2605
Leu Gln Phe Glu Gly Pro Trp Thr Asp Gly Ser Leu Gln Tyr Ser Ala
    2610                2615                2620
Thr Phe Asp Asn Phe Ala Pro Gly Asn Tyr Leu Leu Leu Met His Arg
2625                2630                2635                2640
Asp Leu Leu Pro Tyr Pro Asp Ile Leu Leu Arg Cys Gly Ser Arg Val
                2645                2650                2655
Gly Gln Ser Leu Pro Ser His Pro Leu Pro Ser Arg Asp Gly Ala Cys
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            2660                2665                2670
Asp Trp Phe Phe His Arg Gln Leu Arg Gln Leu Thr Tyr Leu Val Ser
        2675                2680                2685
Gly Glu Gly Gln Val His Val Phe Leu Gln Val Lys His Gly Ala Pro
    2690                2695                2700
Pro Thr Val Ser Ala Ser Thr Ser Val Ser Glu Ser Ala Leu Lys Trp
2705                2710                2715                2720
Ser Leu Pro Glu Thr Trp Gln Asp Val Glu Lys Gly Trp Gly Gly Tyr
                2725                2730                2735
Asn His Thr Ile Pro Gly Pro Gly Asp Asp Val Leu Ile Leu Pro Asn
            2740                2745                2750
Lys Thr Val Leu Val Asp Thr Asp Leu Pro Val Leu Arg Cys Leu Tyr
        2755                2760                2765
Val Met Gly Thr Leu Glu Phe Pro Val Asp Arg Ser Asn Val Leu Ser
    2770                2775                2780
Val Ala Cys Leu Leu Ile Ala Gly Gly Glu Leu Lys Val Gly Thr Leu
2785                2790                2795                2800
Glu Asn Pro Leu Gly Lys Asp Gln Arg Leu Leu Ile Leu Leu Arg Ala
                2805                2810                2815
Ser Glu Glu Ile Phe Cys Asp Arg Phe Asp Gly Ile Arg Val Asp Pro
            2820                2825                2830
Gly Thr Ile Gly Val Tyr Gly Lys Leu Arg Leu His Ser Ala Tyr Pro
        2835                2840                2845
Lys Lys Ser Trp Val His Leu Gly Ala Asp Ile Ala Pro Gly Asn Glu
    2850                2855                2860
Arg Ile Ile Val His Asn Ala Val Asp Trp Gln Pro His Asp Lys Ile
2865                2870                2875                2880
Val Leu Ser Ser Ser Ser Tyr Glu Pro His Glu Ala Glu Val Leu Thr
                2885                2890                2895
Val Lys Glu Val Lys Asp His His Ile Arg Ile Tyr Glu Arg Leu Lys
            2900                2905                2910
His Arg His Ile Gly Ser Ala His Thr Leu Glu Asp Ser Arg Gln Ile
        2915                2920                2925
Cys Leu Ala Ala Glu Val Gly Leu Leu Thr Arg Asn Ile Arg Ile Gln
    2930                2935                2940
Ser Asp Ser Ser Cys Arg Gly Arg Leu Leu Val Gly Ser Phe Arg Lys
2945                2950                2955                2960
Ser Ser Gly Glu Glu Phe Ser Gly Ile Leu Gln Leu Leu Asn Val Glu
                2965                2970                2975
Ile Gln Asn Met Gly Ser Pro Leu Tyr Ala Ser Ile Glu Phe Pro Gly
            2980                2985                2990
Val Ser Ala Gly Ser Trp Val Ile Ser Ser Thr Val His Gln Ser Cys
        2995                3000                3005
Thr Val Gly Ile His Ala Ser Ser Ser Arg Gly Met Val Leu Asn Asp
    3010                3015                3020
Asn Ile Val Phe Gly Thr Lys Gly His Gly Ile Asp Val Glu Gly Gln
3025                3030                3035                3040
Asn Tyr Ser Leu Thr Asn Asn Leu Val Ile Leu Ser Met Gln Ser Ala
                3045                3050                3055
Asn Ser Leu Pro Trp Val Ala Gly Ile Lys Val Asn Tyr Ala Glu Asp
            3060                3065                3070
Ile Ile Leu His Gly Asn Val Val Ala Gly Ser Glu Arg Leu Gly Phe
```

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        3075                3080                3085
His Val Arg Gly His Gly Cys Ser Ser Glu Val Leu Trp Ser Asp Asn
    3090                3095                3100
Val Val His Ser Ser Leu His Gly Ile His Leu Tyr Lys Lys Arg Glu
3105                3110                3115                3120
Pro Asn Asn Cys Thr Gly Val Ser Gly Phe Leu Ala Phe Lys Asn Phe
                3125                3130                3135
Asp Tyr Gly Ala Met Val Gln Thr Glu Asn Ser Val Asp Ile Gln Asn
            3140                3145                3150
Ile Thr Leu Val Asp Asn Thr Val Gly Leu Leu Ala Ile Ser Tyr Val
        3155                3160                3165
Ser Ser Ala Pro Leu Arg Ser Gly Ser Thr Leu Gln Ile Thr Leu Arg
    3170                3175                3180
Asn Ser Val Ile Val Ala Thr Ser Ser Ser Phe Asp Cys Ile Gln Asp
3185                3190                3195                3200
Arg Lys Ala Pro Gln Ser Ala Asn Trp Thr Ser Thr Asp Arg Ala Pro
                3205                3210                3215
Ser Asn Pro Arg Gly Gly Arg Ile Gly Ile Leu Trp Pro Val Ser Ala
            3220                3225                3230
Ser Glu Pro Asn Gly Trp Pro Gln Glu Pro Trp His Lys Val Arg Gly
        3235                3240                3245
Gly His Ser Val Pro Gly Ile Met Lys Leu Gln Asp Val Thr Phe Ser
    3250                3255                3260
Ser Phe Val Lys Ser Cys Tyr Ser Asp Asp Leu Asp Val Cys Ile Leu
3265                3270                3275                3280
Thr Asn Glu His Ser Thr Gly Ile Met Tyr Pro Ile Thr Ala Glu Arg
                3285                3290                3295
Thr Arg Met Leu Lys Ile Lys Asp Lys Asn Lys Phe Tyr Phe Leu Pro
            3300                3305                3310
Leu Gln Ser Gly Lys Asp Leu Val Gly Thr Ile Cys Pro Ala Ser Ser
        3315                3320                3325
Asp Cys Glu Ile Pro Arg Lys Tyr Leu Phe Thr Asp Leu Asp Gly Arg
    3330                3335                3340
Thr Leu Gly Leu Ser Pro Pro Val Ser Val Phe Pro Arg Ile Glu Glu
3345                3350                3355                3360
Gly Trp Thr Gly Ser Phe Phe Asn Thr Gly Ile Phe Arg Glu Glu Gln
                3365                3370                3375
Lys Cys Thr Phe Arg Ala Met Ile Gln Gly Phe Phe Cys Lys Gln Thr
            3380                3385                3390
Glu His Ala Val Leu Ile Leu Asp Asn Val Asp Val Thr Trp Thr Ile
        3395                3400                3405
Pro Lys Phe Tyr Pro Leu Val Ser Ile Thr Asn Gly Phe Val Asp Thr
    3410                3415                3420
Phe Ser Ile Val Lys Asp Ser Gly Leu Cys Phe Pro Thr Ser Ser Pro
3425                3430                3435                3440
Ser Thr Phe Tyr Ser Ile Leu Pro Thr Ser Gln Met Thr Lys Val Cys
                3445                3450                3455
Phe Pro Glu Arg Thr Pro Pro Phe Leu His Phe Phe Leu Leu Ala Asn
            3460                3465                3470
Arg Arg Ala Ser Lys Leu Ile Leu Ala Val Phe Tyr Asn Glu Ile Gln
        3475                3480                3485
Ser Pro Tyr Val Phe Leu Asp Lys Ser Phe Ile Pro Pro Thr Pro Val
```

```
    3490                3495                3500
Glu Ser Ala Phe Ser Leu Leu Asp Glu Pro Val Gly Ala Asn Tyr Phe
3505                3510                3515                3520
Asp Ile Met Asn Asn Leu Leu Tyr Val Val Leu Gln Gly Glu Glu Ala
                3525                3530                3535
Val Glu Ile Arg Ser Ser Val Ser Ile His Leu Ala Leu Thr Val Thr
            3540                3545                3550
Phe Ser Val Leu Glu Lys Gly Trp Glu Lys Ala Val Leu Glu Ser Leu
        3555                3560                3565
Arg Gly Phe Phe Gln Ile Asp Gln Asn Gln Ile Arg Leu Thr Leu Glu
    3570                3575                3580
Met Pro Gly Asn Lys Glu Thr Leu Lys Ala Ile Ala Asn Ser Glu Gly
3585                3590                3595                3600
Lys Arg Lys Arg Ser Cys Pro Thr Val Thr Cys Ala Val Pro Ser Ser
                3605                3610                3615
Arg Tyr Val Gln Arg Arg Pro Leu Met Ala Glu Met Ala Ser Phe Thr
            3620                3625                3630
Ile Thr Pro Ala Thr Thr Leu Glu Thr Phe Ser Lys Val Ile Val Phe
        3635                3640                3645
Glu Ile Gly Asp Leu Pro Asn Ala Arg Asp Ser Glu Phe Ile Gln Ser
    3650                3655                3660
Leu Pro Ser Asn Arg Leu Gln Lys Leu Ala His Gln Val Ile Thr Ala
3665                3670                3675                3680
Gln Gln Thr Gly Val Leu Glu Asn Val Leu Gly Met Thr Val Gly Ala
                3685                3690                3695
Leu Leu Val Ala Gln Ser Glu Gly Val Thr Gly Tyr Arg Asn Ala Ser
            3700                3705                3710
Ser Leu Ile Thr Gly Asn Gln Ile Tyr Thr Arg Pro Ser Val Val Ser
        3715                3720                3725
Ile Leu Val Gln Pro Ser Asp Gly Glu Val Gly Ile Glu Leu Pro Ile
    3730                3735                3740
Gln Pro Arg Leu Ile Phe Leu Asp Glu Lys Asn Glu Arg Val Glu Ala
3745                3750                3755                3760
Leu Gly Leu Pro Ser Glu Pro Trp Ile Ile Ser Val Ser Leu Glu Gly
                3765                3770                3775
Thr Ser Glu Ser Met Leu Lys Gly Cys Thr Gln Ala Glu Thr Gln Asp
            3780                3785                3790
Gly Tyr Val Thr Phe Ser Arg Leu Ala Val Leu Thr Ser Gly Ser Asn
        3795                3800                3805
Trp His Leu Val Phe Thr Val Thr Phe Pro Pro Gly Thr Asn Leu Thr
    3810                3815                3820
Ala Arg Ser Lys Thr Phe Ala Val Leu Pro Val Ala Gly Lys Glu Arg
3825                3830                3835                3840
Ser Thr Ile Ile Leu Ala Leu Ser Leu Cys Ser Val Ala Ser Trp Val
                3845                3850                3855
Ala Leu Ser Cys Leu Ile Cys Cys Trp Phe Lys Lys Ser Lys Thr Arg
            3860                3865                3870
Lys Ile Lys Pro Glu Asp Ile Ser Glu Ser Gln Ala Lys Glu Gln Lys
        3875                3880                3885
Lys Asn Thr His Ile Ser Ser Lys Pro Arg Glu Leu Gln Val Lys Thr
    3890                3895                3900
Ala Lys Glu Asp Ala Met Met Gly Glu Asp Met Arg Met Lys Val Met
```

```
3905                3910                3915                3920
Glu Gly Arg Gln Asn Gln Phe Ser Gln His Ser Met Asp Gly Val Ser
                3925                3930                3935
Lys Arg Lys Val Ser Arg Arg Ala Val Pro Glu Glu Arg Thr Ala Thr
            3940                3945                3950
Pro Ala Leu Lys Ile Pro Arg Thr Thr Cys Val Pro Gly Ala Leu Pro
        3955                3960                3965
Gln Gln Leu Thr Leu Pro Glu Pro Gly Asn Trp Gln Glu Ala Gln Gln
    3970                3975                3980
Gln Leu Leu Arg Tyr Gln Leu Ala Gly Arg Asp Gln Leu Leu Leu Leu
3985                3990                3995                4000
Cys Pro Asp Leu Arg Gln Glu Arg Gln Gln Gly Gln Glu Pro Ser Gln
                4005                4010                4015
Leu Asn Lys Gly Ser Gly Arg Cys Met Gly Leu Ser Gln Glu Lys Ala
            4020                4025                4030
Thr Cys Val Pro Thr Glu Thr Phe Cys Leu His Thr Ala Pro Pro Glu
        4035                4040                4045
Thr Ile Gln
    4050
```

<210> 8
<211> 77
<212> PRT
<213> Homo sapien

<400> 8

```
Ser Glu Ile Leu Ser Val Phe Pro Glu Thr Gly Ser Leu Gly Gly Arg
 1               5                  10                  15
Thr Asn Ile Thr Ile Thr Gly Asp Phe Phe Asp Asn Ser Ala Gln Val
            20                  25                  30
Thr Ile Ala Gly Ile Pro Cys Asp Ile Arg His Val Ser Pro Arg Lys
        35                  40                  45
Ile Glu Cys Thr Thr Arg Ala Pro Gly Lys Asp Val Arg Leu Thr Thr
    50                  55                  60
Pro Gln Pro Gly Asn Arg Gly Leu Leu Phe Glu Val Gly
65                  70                  75
```

<210> 9
<211> 85
<212> PRT
<213> Homo sapien

<400> 9

```
Pro Cys Val His Ser Val Trp Tyr Ser Ile Asp Gly Asp Ile Asn Leu
 1               5                  10                  15
Met Ile Tyr Ile Thr Gly Thr Gly Phe Ser Gly Asp Ser Gln Phe Leu
            20                  25                  30
Gln Val Thr Val Asn Lys Thr Ser Cys Lys Val Ile Phe Ser Asn Gln
        35                  40                  45
Thr Asn Val Val Cys Gln Thr Asp Leu Leu Pro Val Gly Met His Arg
    50                  55                  60
Ile Leu Met Leu Val Arg Pro Ser Gly Leu Ala Ile Ser Ala Thr Gly
```

65 70 75 80
Glu Asp Leu Phe Leu
85

<210> 10
<211> 85
<212> PRT
<213> Homo sapien

<400> 10
Pro Arg Leu Asp Met Val Glu Pro Ser Arg Ala Ala Asp Ile Gly Gly
1 5 10 15
Leu Trp Ala Thr Ile Arg Gly Ser Ser Leu Glu Gly Val Ser Leu Ile
20 25 30
Leu Phe Gly Ser Tyr Ser Cys Ala Ile Asn Val Ala Thr Ser Asn Ser
35 40 45
Ser Arg Ile Gln Cys Lys Val Pro Pro Arg Gly Lys Asp Gly Arg Ile
50 55 60
Val Asn Val Thr Val Ile Arg Gly Asp Tyr Ser Ala Val Leu Pro Arg
65 70 75 80
Ala Phe Thr Tyr Val
85

<210> 11
<211> 92
<212> PRT
<213> Homo sapien

<400> 11
Thr Glu Val Phe Ser Ile Glu Pro Cys Cys Gly Ser Leu Leu Gly Gly
1 5 10 15
Thr Ile Leu Ser Ile Ser Gly Ile Gly Phe Ser Arg Asp Pro Ala Leu
20 25 30
Val Trp Val Leu Val Gly Asn Arg Ser Cys Asp Ile Val Asn Leu Thr
35 40 45
Glu Ala Ser Ile Trp Cys Glu Thr Leu Pro Ala Pro Gln Ile Pro Asp
50 55 60
Ala Gly Ala Pro Thr Val Pro Ala Ala Val Glu Val Trp Ala Gly Asn
65 70 75 80
Arg Phe Phe Ala Arg Gly Pro Ser Pro Ser Leu Val
85 90

<210> 12
<211> 91
<212> PRT
<213> Homo sapien

<400> 12
Pro Arg Ile Met Ala Ile Phe Pro Ser Gln Gly Ser Ala Cys Gly Gly
1 5 10 15
Thr Ile Leu Thr Val Arg Gly Leu Leu Leu Asn Ser Arg Arg Arg Ser
20 25 30

```
Val Arg Val Asp Leu Ser Gly Pro Phe Thr Cys Val Ile Leu Ser Leu
        35                  40                  45
Gly Asp His Thr Ile Leu Cys Gln Val Ser Leu Glu Gly Asp Pro Leu
    50                  55                  60
Pro Gly Ala Ser Phe Ser Leu Asn Val Thr Val Leu Val Asn Gly Leu
65                  70                  75                  80
Thr Ser Glu Cys Gln Gly Asn Cys Thr Leu Phe
                85                  90
```

<210> 13
<211> 85
<212> PRT
<213> Homo sapien

<400> 13

```
Pro Val Met Asp Ala Leu Ser Thr Asn Thr Ser Gly Ser Leu Thr Thr
 1               5                  10                  15
Val Leu Ile Arg Gly Gln Arg Leu Ala Thr Thr Ala Asp Glu Pro Met
            20                  25                  30
Val Phe Val Asp Asp Gln Leu Pro Cys Asn Val Thr Phe Phe Asn Ala
        35                  40                  45
Ser His Val Val Cys Gln Thr Arg Asp Leu Ala Pro Gly Pro His Tyr
    50                  55                  60
Leu Ser Val Phe Tyr Thr Arg Asn Gly Tyr Ala Cys Ser Gly Asn Val
65                  70                  75                  80
Ser Arg His Phe Tyr
                85
```

<210> 14
<211> 87
<212> PRT
<213> Homo sapien

<400> 14

```
Pro Gln Val Phe His Tyr Phe Pro Lys Asn Phe Ser Leu His Gly Gly
 1               5                  10                  15
Ser Leu Leu Thr Ile Glu Gly Thr Gly Leu Arg Gly Gln Asn Thr Thr
            20                  25                  30
Ser Val Tyr Ile Asp Gln Gln Thr Cys Leu Thr Val Asn Ile Gly Ala
        35                  40                  45
Glu Leu Ile Arg Cys Ile Val Pro Thr Gly Asn Gly Ser Val Ala Leu
    50                  55                  60
Glu Ile Glu Val Asp Gly Leu Trp Tyr His Ile Gly Val Ile Gly Tyr
65                  70                  75                  80
Asn Lys Ala Phe Thr Pro Glu
                85
```

<210> 15
<211> 92
<212> PRT
<213> Homo sapien

<400> 15
His Leu Ser Leu His Ile Glu Pro Glu Glu Gly Ser Leu Ala Gly Gly
 1   5   10   15
Thr Trp Ile Thr Val Ile Phe Asp Gly Leu Glu Leu Gly Val Leu Tyr
            20   25   30
Pro Asn Asn Gly Ser Gln Leu Glu Ile His Leu Val Asn Val Asn Met
        35   40   45
Val Val Pro Ala Leu Arg Ser Val Pro Cys Asp Val Phe Pro Val Phe
    50   55   60
Leu Asp Leu Pro Val Val Thr Cys Arg Thr Arg Ser Val Leu Ser Glu
65   70   75   80
Ala His Glu Gly Leu Tyr Phe Leu Glu Ala Tyr Phe
                85   90

<210> 16
<211> 109
<212> PRT
<213> Homo sapien

<400> 16
Pro Ile Val His Gln Val Tyr Pro Pro Ser Gly Val Pro Gly Lys Leu
 1   5   10   15
Ile His Val Tyr Gly Trp Ile Ile Thr Gly Arg Leu Glu Thr Phe Asp
            20   25   30
Phe Asp Ala Glu Tyr Ile Asp Ser Pro Val Ile Leu Glu Ala Gln Gly
        35   40   45
Asp Lys Trp Val Thr Pro Cys Ser Leu Ile Asn Arg Gln Met Gly Ser
    50   55   60
Cys Tyr Pro Ile Gln Glu Asp His Gly Leu Gly Thr Leu Gln Cys His
65   70   75   80
Val Glu Gly Asp Tyr Ile Gly Ser Gln Asn Val Ser Phe Ser Val Phe
                85   90   95
Asn Lys Gly Lys Ser Met Val His Lys Lys Ala Trp Leu
            100   105

<210> 17
<211> 84
<212> PRT
<213> Homo sapien

<400> 17
Pro Val Ile Val Thr Leu Ser Arg Asn Ile Ser Asn Ile Ala Gly Gly
 1   5   10   15
Glu Thr Leu Val Ile Gly Val Ala Arg Leu Met Asn Tyr Thr Asp Leu
            20   25   30
Asp Val Glu Val His Val Asp Ala Leu Ala Pro Val His Thr Gln Ser
        35   40   45
Ala Trp Gly Leu Glu Val Ala Leu Pro Pro Leu Pro Ala Gly Leu His
    50   55   60
Arg Ile Ser Val Ser Ile Asn Gly Val Ser Ile His Ser Gln Gly Val
65   70   75   80
Asp Leu His Ile

<210> 18
<211> 82
<212> PRT
<213> Homo sapien

<400> 18
Pro Val Val Thr Ala Met Gln Gly Glu Ile Thr Asn Ser Ser Leu Ser
1 5 10 15
Leu His Val Gly Gly Ser Asn Leu Ser Asn Ser Val Ile Leu Leu Gly
20 25 30
Asn Leu Asn Cys Asp Val Glu Thr Gln Ser Phe Gln Gly Asn Val Ser
35 40 45
Leu Ser Gly Cys Ser Ile Pro Leu His Ser Leu Glu Ala Gly Ile Tyr
50 55 60
Pro Leu Gln Val Arg Gln Lys Gln Met Gly Phe Ala Asn Met Ser Val
65 70 75 80
Val Leu

<210> 19
<211> 85
<212> PRT
<213> Homo sapien

<400> 19
Pro Glu Leu Ile Ser Ile Ser Gln Ser Asp Asp Ile Leu Thr Phe Ala
1 5 10 15
Val Ala Gln Ile Ser Gly Ala Ala Asn Ile Asp Ile Phe Ile Gly Met
20 25 30
Ser Pro Cys Val Gly Val Ser Gly Asn His Thr Val Leu Gln Cys Val
35 40 45
Val Pro Ser Leu Pro Ala Gly Glu Tyr His Val Arg Gly Tyr Asp Cys
50 55 60
Ile Arg Gly Trp Ala Ser Ser Ala Leu Val Phe Thr Ser Arg Val Ile
65 70 75 80
Ile Thr Ala Val Thr
85

<210> 20
<211> 81
<212> PRT
<213> Mus musculus

<400> 20
Pro Ala Val Ala Ser Val Ser Pro Thr Ser Gly Ser Ile Ala Gly Gly
1 5 10 15
Thr Thr Leu Met Ile Thr Gly Asn Gly Phe Ser Pro Gly Asn Thr Thr
20 25 30
Val Thr Val Gly Asp Gln Pro Cys Gln Ile Thr Phe Ile Ser Ser Ser
35 40 45

```
Glu Val Tyr Cys Ser Thr Pro Ala Gly Arg Ala Gly Thr Ala Asn Leu
    50                  55                  60
Lys Ile Ser Val Asn Ala Ile Ile Tyr Pro Pro Leu Ser Phe Thr Tyr
65                  70                  75                  80
Ala
```

<210> 21
<211> 83
<212> PRT
<213> Mus musculus

<400> 21

```
Pro Val Ile Thr Ser Ile Ser Pro Arg Tyr Gly Pro Gln Ala Gly Gly
 1               5                  10                  15
Thr Leu Leu Thr Leu Thr Gly Lys Tyr Leu Asn Ser Gly Asn Ser Arg
            20                  25                  30
His Ile Ser Ile Gly Gly Lys Thr Cys Thr Leu Lys Ser Val Ser Asp
        35                  40                  45
Ser Ile Leu Glu Cys Tyr Thr Pro Ala Gln Thr Thr Ser Asp Glu Phe
    50                  55                  60
Pro Val Lys Leu Lys Ile Asp Leu Ala Asn Arg Glu Thr Ser Ser Phe
65                  70                  75                  80
Ser Tyr Arg
```

<210> 22
<211> 85
<212> PRT
<213> Mus musculus

<400> 22

```
Pro Thr Phe Tyr Arg Val Ser Pro Ser Arg Gly Pro Leu Ser Gly Gly
 1               5                  10                  15
Thr Trp Ile Gly Ile Glu Gly Ser His Leu Asn Ala Gly Ser Asp Val
            20                  25                  30
Ala Val Ser Ile Gly Gly Arg Pro Cys Ser Phe Ser Trp Arg Asn Ser
        35                  40                  45
Arg Glu Ile Arg Cys Leu Thr Pro Pro Gly His Thr Pro Gly Ser Ala
    50                  55                  60
Pro Ile Val Ile Asn Ile Asn Arg Ala Gln Leu Ser Asn Pro Glu Val
65                  70                  75                  80
Lys Tyr Asn Tyr Thr
                85
```

<210> 23
<211> 86
<212> PRT
<213> Homo sapien

<400> 23

```
Pro Val Leu Ile Ala Val Gln Pro Leu Phe Gly Pro Arg Ala Gly Gly
```

```
 1               5                  10                  15
Thr Cys Leu Thr Leu Glu Gly Gln Ser Leu Ser Val Gly Thr Ser Arg
            20                  25                  30
Ala Val Leu Val Asn Gly Thr Glu Cys Leu Leu Ala Arg Val Ser Glu
        35                  40                  45
Gly Gln Leu Leu Cys Ala Thr Pro Pro Gly Ala Thr Val Ala Ser Val
    50                  55                  60
Pro Leu Ser Leu Gln Val Gly Gly Ala Gln Val Pro Gly Ser Trp Thr
65                  70                  75                  80
Phe Gln Tyr Arg Glu Asp
                85
```

<210> 24
<211> 88
<212> PRT
<213> Artificial Sequence

<220>
<223> Consensus

<400> 24

```
Pro Val Ile Thr Ser Ile Ser Pro Ser Ser Gly Pro Leu Ser Gly Gly
 1               5                  10                  15
Thr Glu Ile Thr Ile Thr Gly Ser Asn Leu Gly Ser Gly Ser Glu Asp
            20                  25                  30
Ile Lys Val Thr Phe Gly Gly Thr Glu Cys Asp Val Ile Ser Ser Ser
        35                  40                  45
Ser Ser Thr Gln Ile Val Cys Lys Thr Pro Pro Val Ala Gly Gly Pro
    50                  55                  60
Ser Pro Pro Val Val Thr Val Ser Leu Asp Gly Asp Gly Leu Ser Ser
65                  70                  75                  80
Ser Pro Val Thr Phe Thr Tyr Val
                85
```

<210> 25
<211> 1776
<212> DNA
<213> Homo sapien

<400> 25

```
atgactgcct ggctgatctc tctgatgagt attgaagtac tacttttggc agtacgtcac      60
ctgagtttac atattgaacc tgaagaaggt agccttgcag ggggaacgtg gatcacagtc     120
atttttgatg gtttggagtt gggtgttctt taccccaaca atggctctca attggagata     180
cacctggtga acgtgaacat ggtggtgccc gcactgcgga gtgttccctg tgacgtcttt     240
cctgttttct tggatttgcc tgtggtgaca tgccggacca gatctgtgct gtctgaagca     300
catgagggtc tgtacttcct ggaagcatac ttcgggggac agctggtaag cagtccaaat     360
ccaggaccac gagatagctg tactttcaag ttttccaagg cgcagacacc catcgttcac     420
caagtttatc caccaagtgg tgttccagga aaactaatac atgtatatgg ctggattatc     480
actggaagat tggaaacttt tgattttgat gctgagtaca ttgatagccc agtgatcttg     540
gaagctcaag gagacaaatg ggttactcct tgctctctta taaataggca gatgggaagc     600
tgttatccta ttcaggagga ccatggtctt gggactctgc agtgccatgt ggaaggcgac     660
tacatcggct cccagaatgt tagcttctca gtatttaaca aaggaaagtc aatggtccac     720
```

```
aagaaggcat ggctgatcag tgctaaacag gatcttttcc tataccagac acactcagaa     780
atattatctg tgtttccaga aactgggagc cttgggggaa gaacaaacat cacaattaca     840
ggagactttt ttgacaattc tgcccaggtt accattgcag gcattccatg tgatattaga     900
cacgtgtctc ccaggaagat tgagtgcacc actcgggctc caggaaaaga tgtgaggctc     960
accacccctc agccaggcaa tcgagggctt ctttttgaag ttggagatgc tgttgaggga    1020
ctggaactga ctgaagccac cccagggtac aggtggcaga ttgtccctaa tgccagttct    1080
ccatttgggt tttggtcaca ggaaggacaa cctttcagag cacggctcag tgggttcttt    1140
gtggctccag agacaaataa ttacactttc tggattcagg cagatagcca agcttccttg    1200
catttcagtt ggtcagagga accaaggact aaggtgaaag tggcctccat cagcgtcggc    1260
actgctgact ggtttgactc ctgggagcag aatagggatg aagggacctg gcagcagaag    1320
actcccaagt tggagctgtt gggtggagcc atgtactacc tggaagcaga gcatcatggg    1380
atagccccaa gcaggggat gaggattggt gtccagattc acaacacctg gctgaatcct    1440
gatgtggtca ccacttacct acgggagaag caccagatcc gagtccgagc ccagaggctt    1500
ccagaagtac aggtgctgaa tgtatcaggc agaggaaact tcttccttac ttgggacaat    1560
gtctctagtc agccaatccc tgcaaatgcc acagcccatc tgattcaaac aaccattgag    1620
gagttacttg cagtaaaatg caaactggaa ccccttggt ctaacatcct tctccggctt    1680
ggatttgaac gaggcccaga agtttccaac tctgatgggg acctcaccag tgggacggag    1740
cccttctgtg gcaggttcag cctccgtcag cctcga                              1776

<210> 26
<211> 1871
<212> PRT
<213> Mus musculus

<400> 26
Met Gly His Leu Trp Leu Ser Gly Thr Trp Phe Leu Phe Gly Leu Leu
 1               5                  10                  15
Trp Cys Ala Ala Asp Ser His Lys Gly Ser Ser Glu Thr Ile Pro Lys
            20                  25                  30
Val Thr Glu Val Ile Pro Lys Tyr Gly Ser Ile Asn Gly Ala Thr Arg
        35                  40                  45
Leu Thr Ile Lys Gly Glu Gly Phe Ser Gln Ala Ser Gln Phe Asn Tyr
    50                  55                  60
Gly Ala Asp Asn Thr Glu Leu Gly Asn His Val Gln Leu Val Ser Ser
65                  70                  75                  80
Phe Gln Ser Ile Thr Cys Asp Val Glu Lys Asp Ser Ser His Ser Thr
                85                  90                  95
Gln Ile Thr Cys Tyr Thr Arg Ala Met Pro Glu Asp Thr Tyr Ser Val
            100                 105                 110
Arg Val Ser Val Asp Gly Val Pro Val Ala Glu Asn Asn Thr Cys Lys
        115                 120                 125
Gly Val Ala Ser Ser Trp Ala Cys Ser Phe Ser Thr Lys Ser Phe Arg
    130                 135                 140
Thr Pro Thr Ile Arg Ser Ile Thr Pro Leu Ser Gly Thr Pro Gly Thr
145                 150                 155                 160
Leu Ile Thr Ile Lys Gly Arg Leu Phe Thr Asp Val Tyr Gly Ser Asn
                165                 170                 175
Thr Ala Leu Ser Ser Asn Gly Arg Asn Val Arg Ile Leu Arg Ile Tyr
            180                 185                 190
Ile Gly Gly Met Pro Cys Glu Leu Leu Ile Pro His Ser Asp Asp Leu
        195                 200                 205
Tyr Gly Leu Lys Leu Asp His Ala Asn Gly Asp Thr Gly Ser Val Thr
```

```
    210                 215                 220
Cys Lys Thr Thr Gly Thr Tyr Ile Gly His His Asn Val Ser Phe Ile
225                 230                 235                 240
Leu Asp Ser Asp Tyr Gly Arg Ser Phe Pro Glu Lys Met Thr Tyr Phe
                245                 250                 255
Val Ser Ser Leu Asn Lys Ile Ser Met Phe Gln Thr Tyr Pro Glu Val
            260                 265                 270
Val Met Val Ser Pro Ser Lys Gly Ser Thr Glu Gly Gly Thr Leu Leu
        275                 280                 285
Thr Ile His Gly His Phe Phe Asp Gln Thr Asp Leu Pro Val Arg Val
    290                 295                 300
Leu Val Gly Gly Gln Ala Cys Ala Ile Leu Asn Val Thr Glu Asn Thr
305                 310                 315                 320
Ile Tyr Cys Lys Thr Pro Pro Lys Pro His Ile Leu Lys Ala Thr Tyr
                325                 330                 335
Pro Gly Gly Arg Gly Leu Lys Val Glu Val Trp Asn Asn Ser Arg Pro
            340                 345                 350
Ala His Leu Glu Asp Ile Leu Glu Tyr Asn Glu His Thr Pro Gly Tyr
        355                 360                 365
Met Gly Ala Thr Trp Thr Asp Ser Ala Ser Tyr Val Trp Pro Ile Glu
    370                 375                 380
Gln Gly Thr Phe Val Ala Arg Ile Ser Gly Phe Leu Val Pro Pro Asp
385                 390                 395                 400
Ser Asp Val Tyr Arg Phe Tyr Ile Arg Gly Asp Asp Arg Tyr Ala Ile
                405                 410                 415
Tyr Phe Ser Gln Thr Gly Arg Thr Glu Asp Lys Val Arg Ile Ala Tyr
            420                 425                 430
Tyr Ser Gly Asn Ala Asn Thr Tyr Phe Ser Asn Ser Thr Gln Arg Ser
        435                 440                 445
Asp Glu Ile His Leu Gln Lys Gly Lys Glu Tyr Tyr Ile Glu Ile Leu
    450                 455                 460
Leu Gln Glu Tyr Thr Leu Ser Ala Phe Val Asp Val Gly Leu Tyr Gln
465                 470                 475                 480
Tyr Lys Asn Val Phe Thr Glu Gln Gln Thr Gly Asp Ala Leu Asn Glu
                485                 490                 495
Glu Gln Val Ile Lys Ser Gln Ser Thr Val Val Pro Glu Val Gln Ile
            500                 505                 510
Ile Thr Leu Glu Asn Trp Glu Thr Ala Asp Val Thr Asn Glu Val Gln
        515                 520                 525
Gln Val Thr Val Thr Ser Pro Cys Val Gly Ala Asn Ser Cys Ser Leu
    530                 535                 540
Ser Gln Tyr Arg Phe Ile Tyr Asn Met Glu Lys Thr Val Trp Leu Pro
545                 550                 555                 560
Ala Asp Ala Ser Asp Phe Thr Leu Lys Ser Ala Leu Asn Asp Leu Trp
                565                 570                 575
Ser Ile Lys Pro Asp Ser Val Gln Val Thr Ser Lys Arg Asp Leu Gln
            580                 585                 590
Ser Tyr Ile Tyr Thr Ile Thr Phe Val Ser Thr Arg Gly Asp Phe Asp
        595                 600                 605
Leu Leu Gly Tyr Glu Val Phe Glu Gly Ser Asn Val Thr Leu Ser Ile
    610                 615                 620
Thr Glu Gln Thr Lys Gly Lys Pro Asn Leu Glu Thr Phe Thr Leu Asn
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625 630 635 640
Trp Asp Gly Ile Ala Ser Lys Pro Leu Thr Pro Glu Ser Ser Glu Ala
645 650 655
Glu Phe Gln Val Ala Val Glu Glu Met Val Ser Ala Lys Cys Pro Pro
660 665 670
Glu Ile Ala His Leu Glu Glu Gly Phe Leu Val Lys Tyr Phe Arg Asp
675 680 685
Tyr Glu Thr Asp Phe Glu Leu Glu His Ile Asn Arg Gly Gln Lys Thr
690 695 700
Ala Glu Thr Asp Ala Tyr Cys Gly Arg Tyr Ser Leu Lys Asn Pro Ala
705 710 715 720
Val Leu Phe Asp Ser Thr Asp Val Lys Pro Asn Lys Ser Pro Tyr Gly
725 730 735
Asp Ile Leu Leu Phe Pro Tyr Asn Gln Leu Cys Leu Ala Tyr Lys Gly
740 745 750
Ser Leu Ala Asn Phe Ile Asp Leu Lys Phe Lys Tyr Gln Asp Ser Gly
755 760 765
Lys Ile Ile Arg Ser Ala Asp Val Gln Phe Glu Tyr Asn Phe Ala Ser
770 775 780
Gly Asn Lys Trp Thr Tyr Thr Cys Ile Asp Leu Leu Asp Phe Leu Gln
785 790 795 800
Thr Lys Tyr Ala Gly Thr Ser Phe Ser Leu Gln Arg Ile Thr Leu Gln
805 810 815
Lys Ser Ser Glu Phe Gln Ser Ile Tyr Val Asp Ala Val Tyr Ile Gly
820 825 830
Gln Thr Pro Thr Val Ser Val Leu Asp Asp Met Pro Lys Arg Arg Pro
835 840 845
Pro Ala Leu Ala Asn Lys Gly Ile Phe Leu Lys His Phe Gln Val Asn
850 855 860
Arg Thr Lys Leu Asn Gly Ser Ala Met Thr Ile Gln Tyr Ser Val Thr
865 870 875 880
Ile Thr Ser Tyr Asn Cys Ser His Asn Ile Pro Met Met Ala Val Ser
885 890 895
Phe Gly Gln Ile Ile Thr Asn Glu Thr Lys Asn Glu Leu Val Tyr Arg
900 905 910
Gly Asn Asn Trp Pro Gly Glu Ser Lys Ile Arg Ile Gln Lys Ile Gln
915 920 925
Glu Ala Ser Pro Pro Ile Ser Gly Ser Phe Asp Val Gln Ala Tyr Gly
930 935 940
His Thr Leu Lys Gly Ile Pro Ala Ala Val Pro Ala Ala Asp Leu Gln
945 950 955 960
Phe Ala Leu Gln Ser Leu Glu Glu Ile Glu Gln Val Ser Val Asn Arg
965 970 975
Glu Gly Thr Cys Ala Gly Tyr Ser Trp Ser Ile Arg Trp Thr Ser Pro
980 985 990
Arg Gly Lys Gln Pro Leu Leu Gln Ile Asn Asp Ser Asn Ile Ile Gly
995 1000 1005
Glu Lys Ala Asn Val Thr Val Thr Thr Ile Lys Glu Gly Gly Leu Phe
1010 1015 1020
Arg Gln Arg Ile Pro Gly Asp Met Leu Arg Thr Leu Asn Gln Gln Pro
1025 1030 1035 1040
Gln Val Glu Val Tyr Leu Asn Gly Ile Pro Ala Lys Cys Ser Gly Asp

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                1045                1050                1055
Cys Gly Phe Thr Trp Asp Ala Met Ile Thr Pro Leu Ile Leu Thr Thr
            1060                1065                1070
Thr Pro Ser Glu Gly Ser Tyr Ala Glu Ser Thr Ile Leu Thr Ile Ala
        1075                1080                1085
Gly Ser Gly Phe Ser Pro Thr Ser Ala Val Ser Val Ser Val Gly Ser
    1090                1095                1100
Thr Arg Cys Ser Leu Leu Ser Val Glu Glu Asn Glu Ile Lys Cys Gln
1105                1110                1115                1120
Ile Val Asn Gly Ser Ala Gly His Val Pro Val Ala Val Ser Ile Ala
                1125                1130                1135
Asp Val Gly Leu Ala Gln Asn Leu Glu Gly Glu Gly Ser His Phe Ile
            1140                1145                1150
Tyr Arg Ser Gln Ile Ser His Val Trp Pro Asp Ser Gly Ser Leu Ala
        1155                1160                1165
Gly Gly Thr Leu Leu Thr Ile Ser Gly Phe Gly Phe Ser Glu Asn Ser
    1170                1175                1180
Thr Val Leu Val Gly Asn Glu Thr Cys Asn Val Ile Glu Gly Asp Leu
1185                1190                1195                1200
Asn Arg Ile Thr Cys Arg Thr Ser Lys Arg Ile Glu Gly Thr Val Asp
                1205                1210                1215
Ile Ser Val Ile Thr Asn Gly Ile Gln Val Thr Ala Lys Asp Ser Phe
            1220                1225                1230
Ser Tyr Ser Cys Leu Gln Thr Pro Val Val Thr Asp Phe Ser Pro Lys
        1235                1240                1245
Glu Arg Thr Val Leu Gly Lys Val Asn Leu Thr Ile Lys Gly Tyr Asn
    1250                1255                1260
Phe Gly Asn Glu Leu Ala Gln Asn Thr Val Tyr Val Gly Arg Lys His
1265                1270                1275                1280
Cys Gln Val Leu His Ser Asn Phe Thr Asp Ile Thr Cys Leu Leu Pro
                1285                1290                1295
Thr Leu Pro Pro Gly Lys His Asp Ile Tyr Val Lys Val Arg Asn Trp
            1300                1305                1310
Gly Leu Ala Ser Thr Arg Asn Lys Leu Asn Ala Ser Ile Leu Tyr Ile
        1315                1320                1325
Leu Glu Val Ile His Met Phe Pro Gln Arg Gly Ser Leu Tyr Gly Gly
    1330                1335                1340
Thr Glu Ile Thr Ile Met Gly Phe Gly Phe Ser Thr Ile Pro Thr Glu
1345                1350                1355                1360
Asn Ser Val Leu Leu Gly Ser Phe Pro Cys Asp Ile Thr Ser Ser Ser
                1365                1370                1375
Glu Asn Val Ile Lys Cys Thr Leu His Ser Thr Gly Thr Val Phe Arg
            1380                1385                1390
Ile Thr Asn Asn Gly Ser His Leu Val His Gly Leu Gly Tyr Ala Trp
        1395                1400                1405
Ser Pro Ser Val Leu Asn Val Thr Val Gly Asp Thr Val Val Trp Ser
    1410                1415                1420
Trp Gln Ala His Pro Phe Leu Arg Gly Ile Gly Tyr Arg Ile Phe Ser
1425                1430                1435                1440
Val Ser Ser Pro Gly Ser Val Thr Tyr Asp Asp Lys Gly Phe Thr Asn
                1445                1450                1455
Gly Arg Gln Lys Ser Ala Ser Gly Ser Phe Ser Tyr Gln Phe Thr Ser
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            1460                1465                1470
Pro Gly Ile Tyr Tyr Tyr Ser Ser Gly Tyr Val Asp Glu Ala His Ser
        1475                1480                1485
Ile Ser Leu Gln Gly Val Ile Asn Val Phe Pro Ala Glu Ala Arg His
    1490                1495                1500
Ile Pro Leu Tyr Leu Phe Val Gly Asn Ile Glu Ala Thr Tyr Val Pro
1505                1510                1515                1520
Ala Gly Pro Ala His Leu Gln Leu Ala Ser Thr Ala Ala Gly Cys Leu
                1525                1530                1535
Ala Thr Glu Pro Leu Cys Gly Leu Asn Asp Thr Arg Val Lys His Ser
            1540                1545                1550
Asn Lys Leu Phe Phe Glu Leu Ser Asn Cys Ile Ser Pro Ser Ile Ile
        1555                1560                1565
Asn Ile Thr Pro Ser Thr Gly Thr Ala Asn Glu Leu Ile Thr Ile Ile
    1570                1575                1580
Gly His Gly Phe Ser Ser Leu Pro Cys Ala Asn Lys Val Thr Ile Gly
1585                1590                1595                1600
Ser Tyr Pro Cys Val Val Glu Glu Ser Ser Glu Asn Ser Ile Ile Cys
                1605                1610                1615
His Ile Asp Pro Gln Asn Ser Met Asn Val Gly Ile Arg Glu Ile Val
            1620                1625                1630
Thr Leu Ile Val Tyr Asn Leu Gly Thr Ala Ile Asn Thr Leu Thr Lys
        1635                1640                1645
Ala Phe Asp Arg Arg Phe Val Leu Leu Pro Asn Ile Asp Met Val Met
    1650                1655                1660
Pro Lys Ala Gly Ser Thr Thr Gly Met Thr Arg Val Thr Ile Gln Gly
1665                1670                1675                1680
Ser Gly Phe Met Ser Ser Pro Glu Gly Val Glu Val Phe Met Gly Asp
                1685                1690                1695
Phe Pro Cys Lys Val Leu Ser Val Thr Tyr Thr Ala Leu Asn Val Glu
            1700                1705                1710
Thr Ser Pro Ala Pro Gln Gln Leu Val Leu Val Asp Ile Leu Ile His
        1715                1720                1725
Gly Val Pro Ala Gln Cys Gln Ser Asn Cys Ser Phe Ser Tyr Leu Glu
    1730                1735                1740
Asn Ile Ala Pro Tyr Val Thr Gly Ile Phe Pro Asn Ser Ile Gln Gly
1745                1750                1755                1760
Tyr Gly Asn Val Leu Ile Lys Gly Glu Arg Phe Gly Thr Val Leu Glu
                1765                1770                1775
Glu Ile Ser Ile Phe Ile Gly Ser Gln Gln Phe Arg Val Ile Asp Val
            1780                1785                1790
Asn Glu Asn Asn Ile Thr Val Leu Met Thr Pro Leu Glu Ala Gly Leu
        1795                1800                1805
His Ser Leu Ser Val Val Val Gly Ser Lys Gly Leu Ala Leu Gly Asn
    1810                1815                1820
Leu Thr Ile Ser Ser Pro Ala Val Ala Ser Val Ser Pro Thr Ser Gly
1825                1830                1835                1840
Ser Ile Ala Gly Gly Thr Thr Leu Met Ile Thr Gly Asn Gly Phe Ser
                1845                1850                1855
Pro Gly Asn Thr Thr Val Thr Val Gly Asp Gln Pro Cys Gln Ile
            1860                1865                1870
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<210> 27
<211> 446
<212> DNA
<213> Homo sapien

<400> 27
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tgggagactt gtgtgcgttg cttcggggat ctccagcccc ctccggcaaa ctccccagtg 120
ctggttcatc agatcaacct tctccctctg gcccaggaga cgggcctgtt ctatgtggat 180
gaaattatta ttgcagacac aaacgtaaca gtttctcaag ctgattctgg aacggctcgc 240
ccaggggca atctggtgga atcagtctct gtggtgggat cccctccggt ctacagtgtc 300
acctcctggc tggcggggtg tggcacggag ctcccgctca tcactgcacg ctctgtgccc 360
actgaaggaa cagaagaggg atctggactg gtcctggtga cgacacagag acgacagcgg 420
acaagtccac ctctaggagg acactt 446

<210> 28
<211> 188
<212> DNA
<213> Homo sapien

<400> 28
tcttgcaggt tacagtgaac aaaacgagtt gcaaagttat tttctcaaac cagaccaatg 60
tagtctgtca gacagatttg ctacctgttg gaatgcatcg gatcttgatg ttggtgagac 120
cctctggtct tgccatcagt gccactggag aagacctctt cctaaatgtg aaacctagac 180
tggatatg 188

<210> 29
<211> 116
<212> PRT
<213> Homo sapien

<220>
<221> VARIANT
<222> (1)...(433)
<223> Xaa = Any Amino Acid

<400> 29
Arg Leu Arg Asn Trp Asp Pro Gly Gln Asp Ser Ala Lys Gln Val Val
1 5 10 15
Ile Lys Glu Gly Asp Met Leu Arg Leu Thr Ser Asp Ala Thr Val His
20 25 30
Ser Ile Val Ile Gln Asp Gly Gly Leu Leu Val Phe Gly Asp Asn Lys
35 40 45
Asp Gly Ser Arg Asn Ile Thr Leu Arg Thr His Tyr Ile Leu Ile Gln
50 55 60
Asp Gly Gly Ala Leu His Ile Gly Ala Glu Lys Cys Arg Tyr Lys Ser
65 70 75 80
Lys Ala Thr Ile Thr Leu Tyr Gly Lys Ser Asp Glu Gly Glu Ser Met
85 90 95
Pro Thr Phe Gly Lys Lys Phe Ile Gly Val Glu Ala Gly Gly Thr Leu
100 105 110
Glu Leu His Gly

115

<210> 30
<211> 114
<212> PRT
<213> Homo sapien

<220>
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<223> Xaa = Any Amino Acid

<400> 30
Glu Leu Gln Pro Trp Asn Pro Gly His Asp Gln Asp His His Val His
1 5 10 15
Ile Gly Gln Gly Lys Thr Leu Leu Leu Thr Ser Ser Ala Thr Val Tyr
20 25 30
Ser Ile His Ile Ser Glu Gly Gly Lys Leu Val Ile Lys Asp His Asp
35 40 45
Glu Pro Ile Val Leu Arg Thr Arg His Ile Leu Ile Asp Asn Gly Gly
50 55 60
Glu Leu His Ala Gly Ser Ala Leu Cys Pro Phe Gln Gly Asn Phe Thr
65 70 75 80
Ile Ile Leu Tyr Gly Arg Ala Asp Glu Gly Ile Gln Pro Asp Pro Tyr
85 90 95
Tyr Gly Leu Lys Tyr Ile Gly Val Gly Lys Gly Gly Ala Leu Glu Leu
100 105 110
His Gly

<210> 31
<211> 489
<212> DNA
<213> Homo sapien

<400> 31
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tttccgtctc tatcaatggg gtcagcattc actcacaagg ggttgatctc cacatccagt 120
acctcacaga agttttcagc atcgagcctt gctgtgggtc cctgctggga gggaccatcc 180
tcagcatctc aggaataggc ttcagcaggg acccagcttt ggtttgggta cttgtgggca 240
atcggtcctg tgacattgtg aacttaacgg aggcgagcat ctggtgtgaa accctgccag 300
ccccccagat acccgatgcg ggcgctccca ctgttccagc tgccgtggag gtctgggctg 360
gcaacaggtt cttcgcccgt ggtccttcac caagcttggt ggggaaaggc ttcaccttca 420
tgtatgaagc ggcagcaaca ccagtagtca ctgccatgca aggagaaatc acaaatagca 480
gcctgagcc 489

<210> 32
<211> 366
<212> PRT
<213> Homo sapien

<400> 32

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Ser Ile Val Ala Leu Asn Lys Ser Tyr Glu Val Tyr Phe Thr Gly Thr
 1               5                  10                  15
Ser Pro Gln Asn Leu Arg Leu Met Leu Leu Asn Val Asp His Asn Lys
            20                  25                  30
Ala Val Leu Val Gly Ile Phe Phe Ser Thr Leu Gln Arg Leu Asp Val
        35                  40                  45
Tyr Val Asn Asn Leu Leu Val Cys Pro Lys Thr Thr Ile Trp Asn Ala
    50                  55                  60
Gln Gln Lys His Cys Glu Leu Asn Asn His Leu Tyr Lys Asp Gln Phe
65                  70                  75                  80
Leu Pro Asn Leu Asp Ser Thr Val Leu Gly Glu Asn Tyr Phe Asp Gly
                85                  90                  95
Thr Tyr Gln Met Leu Tyr Leu Leu Val Lys Gly Thr Ile Pro Val Glu
            100                 105                 110
Ile His Thr Ala Thr Val Ile Phe Val Ser Phe Gln Leu Ser Val Ala
        115                 120                 125
Thr Glu Asp Asp Phe Tyr Thr Ser His Asn Leu Val Lys Asn Leu Ala
    130                 135                 140
Leu Phe Leu Lys Ile Pro Ser Asp Lys Ile Arg Ile Ser Lys Ile Arg
145                 150                 155                 160
Gly Lys Ser Leu Arg Arg Lys Arg Ser Met Gly Phe Ile Ile Glu Ile
                165                 170                 175
Glu Ile Gly Asp Pro Pro Ile Gln Phe Ile Ser Asn Gly Thr Thr Gly
            180                 185                 190
Gln Met Gln Leu Ser Glu Leu Gln Glu Ile Ala Gly Ser Leu Gly Gln
        195                 200                 205
Ala Val Ile Leu Gly Asn Ile Ser Ser Ile Leu Gly Phe Asn Ile Ser
    210                 215                 220
Ser Met Ser Ile Thr Asn Pro Leu Pro Ser Pro Ser Asp Ser Gly Trp
225                 230                 235                 240
Ile Asn Val Thr Ala Gln Pro Val Glu Arg Ser Ala Phe Pro Val His
                245                 250                 255
His Val Ala Phe Val Ser Ser Leu Leu Val Ile Thr Gln Pro Val Ala
            260                 265                 270
Ala Gln Pro Gly Gln Pro Phe Pro Gln Gln Pro Ser Val Lys Ala Thr
        275                 280                 285
Asp Ser Asp Gly Asn Cys Val Ser Val Gly Ile Thr Ala Leu Thr Leu
    290                 295                 300
Arg Ala Ile Leu Lys Asp Ser Asn Asn Asn Gln Val Asn Gly Leu Ser
305                 310                 315                 320
Gly Asn Thr Thr Ile Pro Phe Ser Ser Cys Trp Ala Asn Tyr Thr Asp
                325                 330                 335
Leu Thr Pro Leu Arg Thr Gly Lys Asn Tyr Lys Ile Glu Phe Ile Leu
            340                 345                 350
Asp Asn Val Val Gly Val Glu Ser Arg Thr Phe Ser Leu Leu
        355                 360                 365
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<213> Artificial Sequence

<220>
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<210> 34
<211> 20
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<220>
<223> Primer

<400> 34
gccagcattt ccgagtggtg 20

<210> 35
<211> 23
<212> DNA
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<220>
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<400> 35
tgggtaagca aggtcaaact tcc 23

<210> 36
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 36
accctcaata caagaaggaa ccac 24

<210> 37
<211> 20
<212> DNA
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<220>
<223> Primer

<400> 37
ggtgctcccg tctcccagcg 20

<210> 38
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<212> DNA
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<220>
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<400> 38
ggtctttgaa agaaggaa 18

<210> 39
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
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<400> 39
caatcaattc aaaggtctca g 21

<210> 40
<211> 22
<212> DNA
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<220>
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<400> 40
gcaggactac agaaatactc ag 22

<210> 41
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<220>
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<400> 41
tcccacttac cacagagaag 20

<210> 42
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<220>
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<400> 42
aggaggaaca tggatcacag t 21

<210> 43
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<220>
<223> Primer

<400> 43
agccattgtt ggggtaaaga a 21

<210> 44
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<220>
<223> Primer

<400> 44
ttataatcat gcaaaatggg c 21

<210> 45
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<220>
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<400> 45
acatcatttt catgaggcaa t 21

<210> 46
<211> 21
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<220>
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<400> 46
ggctgtgagg aatggaactc t 21

<210> 47
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<220>
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<400> 47
atggtcattg tcctcatatt tgc 23

<210> 48
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<220>
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<400> 48
aggtttcaga acagcaaaat aatcg 25

<210> 49
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<400> 49
ttctcaaggt aacctattgt gttctta 27

<210> 50
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<400> 50
tggtttgaat ctgaccttca aaacc 25

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aaatgtgcac ttggtaaaac ccc 23

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<400> 52
tttcacactg tcctgtgtca atgac 25

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<400> 53
aaaatccctc atcctgtctg gtc 23

<210> 54
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<400> 54
ttgggaattc atggtttttg attc 24

<210> 55
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<220>
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<400> 55
acataccttc ctccagcctt agaac 25

<210> 56
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<400> 56
gaaaggcttg tgcctcctgt g 21

<210> 57

<211> 25
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<400> 57
tggcaaacag attcacaatt attcc 25

<210> 58
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<400> 58
cattgagttt gagctaagtc c 21

<210> 59
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<400> 59
catgcagcat gtatgtaact ag 22

<210> 60
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gtttattggg agtattgc 18

<210> 61
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<400> 61

gtggacgaac ttacaagc 18

<210> 62
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<400> 62
tgagttgtct ggtcattc 18

<210> 63
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
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<400> 63
gagaaagaaa tggataagac 20

<210> 64
<211> 19
<212> DNA
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<400> 64
actcgtgcag attcctgag 19

<210> 65
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<400> 65
caagatgaga gagatagg 18

<210> 66
<211> 20
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<400> 66
caatcccagt tgatattttc 20

<210> 67
<211> 19
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<220>
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<400> 67
acaagggaag gggtacttg 19

<210> 68
<211> 18
<212> DNA
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<400> 68
tggtctatat ttggaagc 18

<210> 69
<211> 18
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<220>
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<400> 69
acctgcaatg gtaacctg 18

<210> 70
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<220>
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<400> 70
cctacacaca cacacatac 19

<210> 71
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<400> 71
gtttattgaa cagccctg 18

<210> 72
<211> 18
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<220>
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<400> 72
ttccccaatt tgggaagg 18

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<400> 73
ttagcaaagg tgcttttg 18

<210> 74
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<220>
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<400> 74
ttggttactc ttgcttgact c 21

<210> 75
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<400> 75
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<210> 76
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<220>
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<400> 76
tgcatagtat tgatcatg 18

<210> 77
<211> 19
<212> DNA
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<220>
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<400> 77
agctccatgg gactggaaa 19

<210> 78
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<400> 78
ttagcaccat catttagtct tg 22

<210> 79
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<400> 79
aaagaccacc cccagttc 18

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<400> 80
aattcctggc attttttttc 19

<210> 81
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<400> 81
cattttatag aaagaaagaa gacc 24

<210> 82
<211> 18
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<400> 82
tatctatgcc tgcctttc 18

<210> 83
<211> 20
<212> DNA
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<220>
<223> Primer

<400> 83
aatacctacc cacctgaccc 20

<210> 84
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<220>
<223> Primer

<400> 84
cactaataga actgaaggac 20

<210> 85
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<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 85
tgactgaatt cccaccacgc 20

<210> 86
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
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<400> 86
taaccggaga ggactgcaag tg 22

<210> 87
<211> 22
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<210> 220
<211> 314
<212> PRT
<213> Homo sapien

<400> 220

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Val Val Ala Ser Thr Asp Tyr Ser Met Tyr Gln Ala Glu Glu Phe Thr
            20                  25                  30
Leu Leu Pro Cys Ser Glu Cys Ser His Phe Gln Val Lys Val Lys Glu
        35                  40                  45
Thr Pro Gln Phe Leu His Met Gly Glu Ile Ile Asp Gly Val Asp Met
    50                  55                  60
Arg Ala Glu Val Gly Ile Leu Thr Arg Asn Ile Val Ile Gln Gly Glu
65                  70                  75                  80
Val Glu Asp Ser Cys Tyr Ala Glu Asn Gln Cys Gln Phe Phe Asp Tyr
                85                  90                  95
Asp Thr Phe Gly Gly His Ile Met Ile Met Lys Asn Phe Thr Ser Val
```

```
            100                 105                 110
His Leu Ser Tyr Val Glu Leu Lys His Met Gly Gln Gln Gln Met Gly
        115                 120                 125
Arg Tyr Pro Val His Phe His Leu Cys Gly Asp Val Asp Tyr Lys Gly
    130                 135                 140
Gly Tyr Arg His Ala Thr Phe Val Asp Gly Leu Ser Ile His His Ser
145                 150                 155                 160
Phe Ser Arg Cys Ile Thr Val His Gly Thr Asn Gly Leu Leu Ile Lys
                165                 170                 175
Asp Thr Ile Gly Phe Asp Thr Leu Gly His Cys Phe Phe Leu Glu Asp
            180                 185                 190
Gly Ile Glu Gln Arg Asn Thr Leu Phe His Asn Leu Gly Leu Leu Thr
        195                 200                 205
Lys Pro Gly Thr Leu Leu Pro Thr Asp Arg Asn Asn Ser Met Cys Thr
    210                 215                 220
Thr Met Arg Asp Lys Val Phe Gly Asn Tyr Ile Pro Val Pro Ala Thr
225                 230                 235                 240
Asp Cys Met Ala Val Ser Thr Phe Trp Ile Ala His Pro Asn Asn Asn
                245                 250                 255
Leu Ile Asn Asn Ala Ala Ala Gly Ser Gln Asp Ala Gly Ile Trp Tyr
            260                 265                 270
Leu Phe His Lys Glu Pro Thr Gly Glu Ser Ser Gly Leu Gln Leu Leu
        275                 280                 285
Ala Lys Pro Glu Leu Thr Pro Leu Gly Ile Phe Tyr Asn Asn Arg Val
    290                 295                 300
His Ser Asn Phe Lys Ala Gly Leu Phe Ile
305                 310

<210> 221
<211> 316
<212> PRT
<213> Homo sapien

<400> 221
Leu Asn Leu Glu Asp Asn Val Gln Ser Trp Lys Pro Gly Asp Thr Leu
 1               5                  10                  15
Val Ile Ala Ser Thr Asp Tyr Ser Met Tyr Gln Ala Glu Glu Phe Gln
            20                  25                  30
Val Leu Pro Cys Arg Ser Cys Ala Pro Asn Gln Val Lys Val Ala Gly
        35                  40                  45
Lys Pro Met Tyr Leu His Ile Gly Glu Glu Ile Asp Gly Val Asp Met
    50                  55                  60
Arg Ala Glu Val Gly Leu Leu Ser Arg Asn Ile Ile Val Met Gly Glu
65                  70                  75                  80
Met Glu Asp Lys Cys Tyr Pro Tyr Arg Asn His Ile Cys Asn Phe Phe
                85                  90                  95
Asp Phe Asp Thr Phe Gly Gly His Ile Lys Phe Ala Leu Gly Phe Lys
            100                 105                 110
Ala Ala His Leu Glu Gly Thr Glu Leu Lys His Met Gly Gln Gln Leu
        115                 120                 125
Val Gly Gln Tyr Pro Ile His Phe His Leu Ala Gly Asp Val Asp Glu
    130                 135                 140
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Arg Gly Gly Tyr Asp Pro Pro Thr Tyr Ile Arg Asp Leu Ser Ile His
145                 150                 155                 160
His Thr Phe Ser Arg Cys Val Thr Val His Gly Ser Asn Gly Leu Leu
                165                 170                 175
Ile Lys Asp Val Val Gly Tyr Asn Ser Leu Gly His Cys Phe Phe Thr
            180                 185                 190
Glu Asp Gly Pro Glu Glu Arg Asn Thr Phe Asp His Cys Leu Gly Leu
        195                 200                 205
Leu Val Lys Ser Gly Thr Leu Leu Pro Ser Asp Arg Asp Ser Lys Met
    210                 215                 220
Cys Lys Met Ile Thr Glu Asp Ser Tyr Pro Gly Tyr Ile Pro Lys Pro
225                 230                 235                 240
Arg Gln Asp Cys Asn Ala Val Ser Thr Phe Trp Met Ala Asn Pro Asn
                245                 250                 255
Asn Asn Leu Ile Asn Cys Ala Ala Ala Gly Ser Glu Glu Thr Gly Phe
            260                 265                 270
Trp Phe Ile Phe His His Val Pro Thr Gly Pro Ser Val Gly Met Tyr
        275                 280                 285
Ser Pro Gly Tyr Ser Glu His Ile Pro Leu Gly Lys Phe Tyr Asn Asn
    290                 295                 300
Arg Ala His Ser Asn Tyr Arg Ala Gly Met Ile Ile
305                 310                 315
```